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ORIGINAL ARTICLES.

THE ETIOLOGY AND PATHOLOGY OF PNEUMONIA.

By A. S. M. Chisholm, M. D., Bennington, Vt.

In the consideration of the varying types of disease that are grouped under the general title of pneumonia, it is probable that we have a series of distinct conditions that differ from each other so widely as to suggest more than a mere question of degree and to indicate that the ancient distinction between sthenic and asthenic forms is inadequate to explain the divergence of types.

Between the well marked frank acute lobar pneumonia which presents such a striking picture,—the chill, the lancelike pain on inspiration, the quick suppressed cough, the rapid bounding pulse, the hurried breathing, the rusty sputum, the consolidated lung, the sustained pyresia, the eighth day crisis and the quick convalescence, on the one hand;—and, on the other, the absence of all these symptoms, the insidious onset, the gradual development, the weak pulse—below 100—the low temperature between 100° and 102°, the protracted and unprogressive course of the disease, the prostration out of all proportion to the severity of the physical signs, (in fact in some of these cases I have discovered the lung consolidation to my great surprise in the course of a routine examination, when no symptom pointed to the lungs as being the seat of any morbid process) between these two forms there seems to be a greater difference than could be explained by the difference of degree. Veratrum Viride and the application of ice benefit one, cantharidal blisters and iron are needed for the other. Clinically they are, in fact, different diseases. Both are liable in a varying percentage to terminate in tuberculosis and they are both called pneumonia. I will assume that, inasmuch as the consideration of these divergent types would require too long a disquisition to present to you this afternoon, that the acute lobar pneumonia, the first form, is intended to be the subject of today's papers and to that I will confine myself. No one would today have the temerity to confuse these two types except in name.

Yet even here we are not on a perfectly straight road. Acute lobar pneumonia may result from several causes,—from a broken rib tearing its ruthless way through the delicate vesicles, from whooping cough or measles, from ether inhalation, from septic infarctions, from diphtheria, from a host of different causes; yet these all induce the same clinical disease as that which, arising idiopathically, affords the types first described above, and while the circumstances of its causation may differ yet the main symptoms remain recognizably similar.

We all remember when, a few years ago, Frankel described his diplococcus and asserted his belief that he had discovered the specific germ of pneumonia. His statement went long unquestioned, (although his diplococcus had been discovered by Sternberg and Pasteur and described as an innocuous denizen of the buccal mucus long before) and subsequent microscopists hastened to confirm the record of its maleficent destiny. Nelter, in Charcot's "Traite

Read before the Bennington County Medical Society.

de Medicine," formulated the proposition, "There is no pneumonia without the Pneumococcus," but when today one considers the fact that in many cases the diplococcus of Frankel and Weichselbaum is not to be found, that Friedlander has also described a different bacillus which he has named "bacillus pneumonae," that, in many cases, in place of the pneumococcus of Frankel or the bacillus of Friedlander, the histological cause seems to be the streptococcus or even the staphylococcus, that, moreover, in those cases that occur during an epidemic of diphtheria, the Klebs-Loeffler bacillus seems to have been the underlying cause, it is manifest that among this multiplicity of agents it is difficult to be dogmatic. Either Frankel's diplococcus will be shown to have hitherto undetected varieties or some new agent will be discovered which will be more uniformly present and fulfil more satisfactorily the requisite conditions.

As to the manner of its introduction into the system there is rather less conflict of opinion among authorities, although many still maintain that it is impossible for foreign bodies to reach the air cells of the lungs by direct inhalation. Taking into consideration the sinuous passages of the respiratory canal, its moist and narrow walls to which bacteria must cling if they touch them and the constant outward flow of the cilia of the epithelial cells, it has been believed out of the question that pathogenic or other organisms could run this gauntlet successfully and invade the air spaces. If this be true certainly no foreign body could work its way back over the resisting current of ciliary activity and reach the air cells by backward extension which is to say that no foreign bodies can be inspired into the air vesicles. But we are all familiar with the fact that coal dust may be thus inspired and reach the remote and ultimate vesicles. Thus the sudden rush and onset of air that invades and inundates the lungs must retain foreign particles and carry them to the field of their subsequent exploits, for the experiment of introducing pneumococci directly into the circulation indicates that pneumonia cannot be so caused. There is in my mind no doubt whatever that, in the case of tuberculosis, the bacillus reaches the lungs through the intestines, the lymphatics, the thoracic duct, the inferior vena cava, the right heart and the pulmonary arteries, but it is almost equally certain that the pneumococcus is inhaled with the dust and evades or escapes arrest in its passage along the air tubes until it has planted itself, in a dried state, on the mucous membrane of the pulmonary vesicles and begins at once to grow and multiply. It is a marvelous thing that the pneumococcus, which Sternberg showed to be an innocuous and almost constant resident of the val mucus, should at once, on finding its proper nidus, begin work so energetically as to produce within forty-eight hours a condition of general sepsis, with the chills and pyrexia that mean general sepsis as unmistakably as suppuration means pus.

This brings us to the second point, the consideration of the pathology of pneumonia. The initial nidus being the ultimate vesicles, as soon as these dry and starved cocci find themselves comfortably settled in such a fertile field, they begin to proliferate and sub-divide and multiply with amazing rapidity. The first indication of their presence is a partial inhibition of the respiratory murmur over a limited area corresponding to the original infection while around this area the vesicular murmur is somewhat intensified and roughened. Then with the gradual agglutination of the walls of the air vesicles the crepitant rale appears on inspiration and almost at once one may begin to perceive the diminished resonance under careful percussion. Then the vesicular murmur ceases, the rales disappear, the respiratory

pitch rises, the resonance becomes more and more impaired, the speaking voice seems nearer and sharper as the whole lobe succumbs to the swarming violence of these innumerable bacteria and becomes a solid organ impervious to air, with plugged capillaries and choked bronchioles. For the heart has continued to pump the blood as before into this invaded district and it has been caught and kept and clotted there, a great part even excuding into the air vesicles round about, where it awaits the development of the antitoxine of reaction when it shall have been produced somewhere in the body. As soon as this occurs, defervescence begins and resolution by absorption commences to clear away the debris and open up the paths again for the busy blood. In the consideration of this subject the one thing that at present seems to clamor for explication is the place and method of development of the anti-toxine that comes so opportunely to terminate this dangerous drama.

The ancient division of pneumonia into its four stages, in spite of Baumgarten and Eichorst, is still roughly exact. The congestion, red hepatization, grey hepatization and resolution do succeed each other as we were always taught, except that their development is less regular and the successive invasion of contiguous portions of the lung gives us often the opportunity to observe two stages at the same time.

The disease then begins as a congestion of a portion of the lobe, for when the bacteria have effected a settlement the blood rushes in to dislodge them and sweep them away, until the capillaries and the intercellular spaces are filled and distended with blood, some of which oozes through the alveolar walls in a sticky serum containing much of the hemoglobin. The opposite alveolar walls become glued together by this viscid serum, and it is the partial entry of air into these air vesicles that, forcing the walls apart, produces the characteristic pneumonia rale. In this stage cross section permits this tenacious reddish serum to be squeezed from the alveoli. It is mixed with air and seems like froth. This air enclosed and entangled in the alveoli keeps the lung, when in this stage from sinking in water as it does in the next stage of red consolidation or hepatization.

In this second stage the alveoli are filled and distended with this fibrinous exudation. The air is pressed out into the bronchial tubes and on cross section the alveoli are found solidified in a characteristic granular manner, and a little froth can be squeezed from the bronchioles with the plugs and casts of the tubes.

"Microscopically, the air cells are found to be entirely full of a coagulated inflammatory exudate. The conspicuous components of the coagulem are its many erythrocytes and the fibrin, whose fibrils form a reticulum extending among the cells. There may be so much fibrin that the air cells look as if occupied by tufts of cottonwool in whose meshes the cells have been caught. In addition to the fibrin there are large numbers of red and white blood corpuscles and desquamated alveolar, epithelium. The pneumococci are also present in large numbers, many of them in the protoplasm of the leucocytes."

(*McFarland in Hektoen and Riesman.*)

More and more of the bacteria crowd into the leucocytes, or perhaps more strictly speaking the white cells take up more and more of the diplococci, the red cells disappear by absorption or segregation and the lighter tinge of grey or yellow hepatization appears—the third stage.

With this stage properly speaking resolution begins. The grey hepatization simply marks the beginning of convalescence by inaugurating the absorption or resolution of the effused blood, for as soon as the red cells be-

gin to disappear a process is started which progresses without interruption. Softening and absorption proceed rapidly. Some of the exudate is removed by expectoration and the rest by absorption which in successful cases completes uninterruptedly the restoration of function to the obliterated air spaces.

ERYTHEMA NODOSUM.*

By Wm. Lindsay, M. D., Montpelier, Vt.

Erythema Nodosum is a disease usually ushered in with slight constitutional disturbance—general malaise, slight fever, coated tongue and gastric symptoms—though frequently its onset is so acute that none of these symptoms occur, and very frequently there are no constitutional symptoms. The most constant symptom, and one which is rarely absent, is pain and swelling about the joints, especially of the lower extremities, and pain and tenderness along the shin bones. After a variable period, usually a day or two, the eruption appears in the form of node like swellings, most often situated along the fronts of the tibiae and on the dorsa of the foot. The lesions however are found developing upon the forearms and thighs and more rarely upon the face and back, on the tongue and on the mucous membrane of the mouth and pharynx. They generally appear where the skin is in close apposition to a bony surface or prominence. They are usually symmetrically distributed and come out in crops of two or three, are seldom numerous, though ten or fifteen may be observed. In the case related they were very numerous and not at all confined to bony surfaces. The swellings are round or oval and about the size of a walnut. The swellings are tense and firm at first, somewhat painful of themselves and tender to the touch and of a bright rose red color. They remain stationary for a day or two, then the bright redness begins to fade, changing to a bluish color and exhibiting in course the various changes of violet, blue and greenish yellow seen in a bruise. Coincident, the infiltration becomes less, the tumors soften, though they rarely if ever go on to suppuration, and then disappear, leaving only a brown pigmentation. Each node goes through these series of changes in a week or ten days, but as new crops appear during the first week the disease lasts on the average three to six weeks.

Etiology—The disease occurs in children and young adults, rarely in patients over thirty years of age. Females are more often affected than males, in about the proportion of two to one. Sudden changes of temperature are exciting causes, the disease occurs more commonly in spring and autumn. It is more frequently observed in poorly nourished children and in connection with chlorosis.

That erythema nodosum is closely related to rheumatism there seems but little doubt. There is often evidence of previous rheumatic troubles, and frequently rheumatic symptoms are manifested in the patients themselves. Endocarditis is sometimes a complication of the disease,—another evidence of its rheumatic origin. Many observers defend very strongly the rheumatic origin of erythema nodosum. The fact that erythema nodosum is so frequently associated with rheumatism, and the complications of rheumatism before mentioned and that the same treatment is effective in both conditions affords proof of the relationship existing between them.

Pathology.—There are two views held in regard to the pathology of erythema nodosum. Some dermatologists hold that it is an independent affection, while others hold that it is closely related to, if not a special variety of erythema multiforme. The latter view is supported by the fact that the pathological find-

*Read at a meeting of the Washington County Medical Society.

ings are identical in the two affections. They both occur idiopathically or as a result of the same causes, and they both run a definite and typical course, and further the lesions of both have been found associated upon the same individual. It might then be considered a special clinical type or variety of erythema multiforme, and not an independent affection.

Morbid Anatomy.—In a nodule of erythema nodosum there are diffuse serous exudations involving all the layers of the cuticle, a dilation of the lymph spaces and capillaries and an infiltration of red blood corpuscles.

Diagnosis—The sudden occurrence in crops of tender, painful nodes along the fronts of the tibiae, symmetrically arranged and displaying the colors of a bruise in their disappearance are features not easily mistaken, especially when they are accompanied with articular pains. Non-ulcerating nodes of syphilis, occurring in the lower extremities in the late stage of the disease may simulate the lesions of erythema nodosum. When erythema nodosum develops in other localities than on the extremities and with unusual symptoms as in the case reported it is often difficult to immediately make a diagnosis, but a careful study of the mode of development and course of the lesions, will soon remove all doubt. The prognosis in the majority of cases is perfectly good, the patient often recovering without treatment, the tendency to relapse must not be forgotten. If renal or cardiac complications arise the prognosis is serious.

Treatment; mainly symptomatic.

The observation of the following case led to the introduction of the somewhat uninteresting subject of erythema to your consideration. A girl of twelve when first seen was suffering from severe headache, pain in the back and lumbar region and distress over the whole body. Temp. 104° Fah., pulse rapid, no vomiting but a slight diarrhœa existed. The condition abated slightly yet the temperature remained about 102°. About the eighth day the attending physician noticed an eruption developing upon the legs and arms and affecting both surfaces of them. It consisted of raised and swollen rosy red patches with a well defined outline. These nodes could be both seen and felt above the skin. They were rounded and oval in shape and from one-half to two inches in diameter when fully developed. The spots were extremely painful and tender to the touch. They were numerous upon both arms and legs, a few upon the body and one or two upon the face. In a few days they appeared to undergo some characteristic changes, they became red, then purple or livid, subsequently fading into a greenish yellow. In one or two a small amount of pus formed at the highest point of the elevation.

An eruption of this character, developing with these symptoms and with the knowledge that an infectious disease of malignant character existed in a number of towns and cities of the state, it became immediately and imperatively necessary to make a diagnosis. By reason of the *locality* of the eruption, its symmetry and the peculiar painful and tender nodes a provisional diagnosis of erythema nodosum was made.

SOME INTERESTING CASES

Presented at the Clinical Society of the New York Polyclinic Medical School and Hospital.—Stated Meeting, held December 5, 1904.—The President, Dr. Daniel S. Dougherty, in the Chair.

New Adenoid Forceps—Dr. George B. McAuliffe presented a new adenoid forceps, the principal feature of which was the safety with which it could be used by beginners in this line of work. Mutilation of the parts, except the adenoids, was avoided. The instru-

ment could be taken apart and thoroughly sterilized, and the parts could be interchanged, thus making it possible to use different sized cutting blades with the same handle. The cutting blades were hinged behind and were swivelled on the handles. The instrument is made by Kennedy and Frech.

Dr. F. J. Quinlan opened the discussion of these forceps, saying that in his opinion the angle was a little too sharp. Most of the growth comes on the superior and posterior wall, and in his opinion the instrument would be much improved if the angle were such that in resting on the incising path it would remove the tissue from the growth focci. He thought, however, that the instrument was very practicable.

Dr. D. J. McDonald said that he had seen the forceps used at operations, and they were thoroughly practicable, but of course did not dispense entirely with the use of the curette. He thought this instrument, used in connection with Dr. Quinlan's forceps, would bleed any case of adenoids, and thought that one instrument should be used to supplement the other.

Patient Demonstrating the Use of Theocin in the Treatment of Nephritis —Dr. A. Reich presented this patient, a boy 8 years of age. His family history was of no importance, and he had always been well himself until he developed measles at 3 years of age. When one year old he began to drink beer and California wine at supper time. From half a tumbler full he gradually took a tumbler full of either beer or wine, and was intoxicated several times from the effects of brandy and whiskey. In March, 1903, he developed scarlet fever, which was followed in May by nephritis, showing slight oedema under the eyes and face. The urine contained considerable albumen, large epithelial casts and fine granular casts. His condition grew gradually worse, until, in July, there was general anasarca, the abdomen at the umbilicus measured 35 inches, and there was oedema over the right lung, posteriorly below the angle of the scapular. There was a pleuritic exudate on the left side, up to the sixth rib; pericardial dullness also increased. The patient was very short of breath, temperature was 101 and pulse 96. He passed 4 ounces of urine in 24 hours. The treatment up to this time had consisted of milk diet, cereals, vichy water, calomel, acetate of potash, digitalis and hot baths. The treatment was now changed to diuretine and jalap and to relieve the distress he was tapped and five and a half quarts of water removed. The urine increased at once to 8 ounces per day, but gradually the abdomen filled again, in spite of high salt irrigations, hot packs, etc., and it was necessary to tap him every two weeks. After tapping him, a No. 1 soft rubber catheter was left in the abdomen for constant drainage, and another time five strands of silk worm were put in, but each time a localized peritonitis made its removal necessary in from twelve to twenty-four hours. In September his condition continued the same, with the addition of a distinct caput Medusae. He was tapped for the last time on November 18th, and on December 1st he was given his first dose of theocin, which caused an increase of urine to a cup full a day, and in four days, to four cups full a day. He was left in this condition for a few days, when the abdomen began to swell again, and the urine dropped to 6 ounces, when theocin was again given for one and one-half weeks. The anasarca disappeared completely, and never returned, and now (a year later, the urine contains no albumen. The theocin was given, 2½ grains, 4 times a day.

Result from Operation for Cleft Palate—Dr. J. A. Bodine exhibited a girl 8 years of age, with a result from an operation

for cleft palate. He stated that these operations were regarded by surgeons in general with trepidation, because of the many mechanical difficulties in effecting a closure and of the many disappointments in the healing. Tension upon the stitches after suturing, plus an infection in the suture-line always present in the mouth, are the main causes of failure. In the obviation of tension on the flaps lies the thoroughness of the denudation of the muco-periosteal flaps. Some study should be given to the position of the foramen accommodating the exit of the anterior palatine artery, because destruction of this vessel will cause sloughing of the flaps. If Rosea's position is thoroughly understood, there is no interruption of anesthesia and no entrance of blood into the larynx. As the soft palate approaches the hard palate, it divides into two layers, the upper layer covering the floor of the nose, the lower one the roof of the mouth. When the soft palate has been thoroughly separated from the posterior edge of the bony hard palate, the upper layer, or that continuous with the floor of the nose, is divided. As the preservation and improvement of speech is one of the incentives to these operations, it is necessary to preserve the integrity of the tensor palati and levator palati muscles. The old method of making a wide lateral incision into the soft palate of course destroyed these muscles, and disappointment in the improvement of speech resulted inevitably. Instead of cutting these muscles, the hamilar process of the sphenoid bone around which winds the central tendon of the tensor palati muscle should be fractured, which throws this muscle out of position temporarily, while healing takes place. Later on, this same muscle is able to do its work in assisting the child to phonate correctly.

In the speaker's opinion, it is fatal to success to use catgut, kangaroo tendon or silkwormgut for sutures. The absorbable ones are uncertain in stability, and almost certain to result in infection, while the silkwormgut cannot be tied with smoothness, and the projecting ends irritate the child's tongue. Silk is in his opinion the proper material, but the capillarity of the silk strands should be destroyed by immersion in tincture of benzoine before use. In the after-treatment of the child, it is well to keep the atmosphere moist with a steam kettle.

Dr. D. S. Dougherty said that he had performed one or two operations for cleft palate, using Dr. Bodine's method, and the results had been very satisfactory.

Dr. Quinlan said that it was rather difficult, after the successful performance of an operation for cleft palate, to teach a child as old as the patient exhibited by Dr. Bodine to use muscles which had either been completely atrophied or had never been used. These muscles should be stimulated in some way, as the resultant effects were among the most important results of these operations. These children should be especially drilled in saying words that they never have pronounced before, especially words where resonating force is required.

Result of Schwartze-Stacke Operation for Mastoiditis—Dr. G. B. McAuliffe presented a young girl on whom the Schwartze-Stacke operation had been performed for otorrhœa. A double Stacke operation was performed, and while it did not take the preservation of hearing into as much consideration as the prevention of cerebral metastasis, nevertheless the girl is able to hear ordinary conversation without betraying any aural disability, while the cosmetic effect of the operation is furthermore perfect.

Dr. Earl Connor, in discussing the case, said that while the wound was very extensive, if the girl retained any part of her hearing, the

operator was to be congratulated upon the result.

Dr. D. J. McDonald said that usually after a radical operation the patient is unable to hear, and consequently this case was very interesting.

Ulcers of the Larynx for Diagnosis—Dr. McAuliffe also presented a man who had four ulcers on the throat, two anterior to the posterior pillars and two on the posterior wall of the pharynx. Examination of the tissue by a pathologist failed to reveal anything characteristic, and there was no history of tuberculosis, syphilis or carcinoma. The speaker said that he had been unable to make a positive diagnosis, and asked if anyone in the society had had a similar experience. Inunctions of mercury had benefited this patient greatly for a week, and for lack of a better diagnosis it was categorized as a tertiary specific lesion.

Dr. Quinlan said that for a long time he had divided ulcerations of the throat into diphtheritic, malignant, specific or tubercular, but upon reviewing the literature upon this subject some time ago, he discovered that the Germans have an idiopathic ulceration. There is a form of pharyngitis in which the system is much run down, and the tissues of the pharynx sometimes present superficial erosions and then break down and these little sores result. The speaker said that he had treated a patient presenting a similar condition to that shown by Dr. McAuliffe's patient with arsenic and that the patches had disappeared completely. He thought the average physician too apt to class these idiopathic ulcerations as syphilis.

Dr. Dougherty said that he had seen a patient, a young girl, 15 years of age, presenting almost the identical appearance of the patient presented by Dr. McAuliffe. She had been examined by several laryngologists, and examination of her chest, sputum and tissue were negative. Under iron and arsenic, the condition cleared up.

Case of Bilateral Cervical Ribs—Dr. E. A. Aronson presented a middle-aged woman who came to the clinic two weeks previously, complaining of a neuralgic pain in the back of her head, shoulders and back. Examination of both sides of the neck revealed the presence of a hard bony growth, more prominent on the left side, and over which a marked pulsation could be felt, with a distinct thrill. On examining the more prominent bony growth on the left side, it was found to extend backward to the vertebral column. An X-ray photograph of the patient confirmed the diagnosis of bilateral cervical ribs. The patient complained that the pain was most marked at night, shooting downward to the left hand, and the rib on this side will be resected.

Dr. Milton Franklin exhibited a radiograph of a case almost identical with that of Dr. Aronson. The patient had noticed a bony protuberance on the left side of the neck. There was no pain, but there was a distinct bruit and a thrill. The radiograph revealed the presence of an extra rib on either side of the vertebral column. On the left side there was an extra bone between the vertebra and the rib. The rib articulated with the sternum in the usual manner of the first rib, and corresponding with the second rib was an extra rib which ended in a wedge shaped point passing outward and downward. On the right side the extra rib came first. It was in all respects similar to that on the left side, and the second rib resembled an ordinary normal first rib.

Demonstration of Specimen of Compression of Larynx due to Sarcoma—Dr. Dougherty presented this specimen. The patient had presented himself at the dispensary some weeks previous to operation, suffering

from extreme dyspnoea and some emaciation, but no pain and no dysphagia. Examination of the larynx revealed a large mass on the right side, involving the glands of the neck, crossing over to the larynx and involving the aretnoid on the opposite side. The patient appeared a week later with more pronounced symptoms, and the condition was then diagnosed as sarcoma. Prof. Quinlan, who saw him shortly after this, agreed in the diagnosis of extringent sarcoma, and advised a tracheotomy, which was performed the same evening, under chloroform anesthesia. The knife was plunged in rapidly, the tracheotomy tube inserted, and the patient took one long breath, expelled the air and expired. The speaker thought that the patient's death might possibly be explained by the reaction which followed the shock to the inhibitory nerves and paralyzed the heart. One side of the larynx was pressed almost to the opposite side, the lumen was entirely diminished and there was no breathing space whatever.

Dr. Quinlan said that he had advised the operation performed by Dr. Dougherty, but he now thought that local anesthesia might have produced more favorable results than did the chloroform. In these cases, under general anesthesia, there seems to be a vasomotor paralysis, and the mucous membrane becomes more or less oedematous; there was probably an encroachment upon the constricted lumen of the larynx, and a certain amount of mucous exudation, and the speaker thought that cocaine or some anesthetic used on the outside of the throat might possibly have produced much better results.

Dr. Bodine said that he had been present at the operation and advised against the use of cocaine as a local anesthetic because of the depth of the trachea in a thoroughly swollen neck, where the tracheotomy had to be done so low that the large venous trunks at the root of the neck were in danger of being cut. There was a possibility of uncontrollable hemorrhage, that made, in his opinion, the use of local anesthesia in this case unadvisable.

Dr. V. C. Pedersen said that it was well known that when a patient has a respiratory difficulty in a conscious state, the difficulty will be increased in unconsciousness under any general anesthetic. He therefore thought all these cases should receive combined anesthesia, morphia freely, cocaine as far as possible, and then some general anesthetic. In the case of the patient under discussion, however, cocaine would probably have had to be abandoned because of the depth of the wound. He would advise administering a large dose of morphine prior to anesthetization in these severe cervical cases. At the Roosevelt Hospital the speaker had anesthetized many patients with serious throat lesions, and by combining local with general anesthesia and morphine, had been very successful. In one goitre case, only half the growth could be removed at one sitting, although the trachea was involved and deformed, the patient was kept quiet under morphine, and just a little ether for stopping the pain which the morphine failed to alleviate.

Dr. Dougherty said that the idea of local anesthesia had been discussed at the time of the operation, but with local anesthesia the cooperation of the patient was required to a greater or less extent, especially in tracheotomy, and the patient was very nervous and exhausted and almost dying, and could have given no help whatever. Dr. Bodine, who was present at the operation, agreed with him that the possibilities were that the mass could not be dissected out under local anesthesia, and chloroform was therefore administered. In regard to position, it was necessary to keep the patient's head in a particular position to allow him to get any inspiration whatever, and

the operator worked with the chin slightly flexed.

Report of an Operation for Mastoiditis—Dr. Quinlan reported the history of an infant 7 months old on whom he had operated recently for mastoiditis. When he first saw the patient there was an entire absence of symptoms, except a small nodule at the lower junction of the ear. Temperature, pulse and respiration were normal. The patient's mastoid process was opened, and the pus poured out, the entire epophysis being in such a condition that it appeared ready to fall in, and so soft that it could be scraped away. This was hurriedly done and the operation was rapidly concluded, as the child's pulse ran up to 212 at the operation. The point the speaker wished to emphasize was the necessity of making an exploratory incision under proper aseptic conditions, despite the absence of symptoms, as 24 hours' delay might make a decided difference in the prognosis of the case. The patient was doing nicely, with a normal pulse and temperature, a week after the operation.

Gangrene Following the Use of Stovaine as a Local Anesthetic—Dr. D. A. Sinclair showed a case of gangrene of the skin of the penis following the use of stovaine as a local anesthetic for circumcision. This was one of four cases on which stovaine had been used. The strength of the solution was 2 per cent. In one instance a simple meatotomy was performed, and only 10 minims of a 2 per cent. solution were used. The patient complained of a sensation of sickness and nausea in the stomach, and as fainting was imminent, had to be placed in the prone position. This case, at the end of a week, showed gangrene of the glands penis at the site of injection of the stovaine. The two following cases were circumcisions. The patients were both strong, healthy individuals: the first experiences pain during the stitching process, but did not feel faint or sick. The second, a strong, healthy young man, about 30 years old, weighing about 190 pounds, was stovainized with a 2 per cent. solution also, and he complained of pain from stitching at the latter half of this process, and after the operation was completed complained of severe nausea and sickness in the stomach, and cyncopy was imminent and he had to be placed in the prone position. These two cases showed a gangrenous area almost identical, the gangrenous process extending along the skin of the penis at some points a quarter of an inch, at others up to three-quarters of an inch at least, and although the operations were performed about a month ago, the patients have not as yet recovered. The conclusions of the speaker were that stovaine is not as efficacious as cocaine in its anesthetizing effect and is as toxic as cocaine, produced gangrene when used in this strength, and is consequently a most dangerous drug. He had used it in a case of ischio-rectal abcess, and the man complained most bitterly of pain, claiming that he felt every step of the operation.

Dr. Earle Connor read the paper of the evening, which was entitled:

Inflammation of the Optic Nerve due to Alcohol and Tobacco Poisoning.

He said that inflammation of the optic nerve due to alcohol or tobacco poisoning, or both, may be acute or chronic. The acute cases are the result of the ingestion of an overdose of the poison. The symptoms are a rapid reduction of the visual acuity, even to light perception only, within a few days. Vision is subject to variation, and partial recovery may precede permanent blindness. The ophthalmoscope shows a congested nerve head, with blurred edges, dilated veins and perhaps some small hemorrhages. Prognosis is usually bad, but a useful degree of vision may follow early and persistently energetic treatment.

The chronic form yields to abstinence from the exciting cause. There is variation in vision, and the prognosis depends on the early recognition of the disease, so that the inflammation may be checked in its incipiency. The pathologic changes in the chronic cases he thought degenerative, but said that differences of opinion existed regarding this point. Prognosis is good in the first attack, but proportionately less so in recurrent attacks.

Treatment consists in total abstinence from the toxic agents known to produce the disease. Active diaphoresis assists in the elimination of the poison. Strychnia pushed to the limit of toleration is probably the best remedy, and the iodides are of value in stimulating the absorption of exudates. Plenty of sleep and fresh air, good food and proper exercise are also necessary.

Dr. McAuliffe said that he thought the optic nerves were affected more by pipe smoking than by any other form of tobacco. He had seen one patient in whom this condition had been produced by cigarette smoking.

Dr. Perry Hough said that he wished to emphasize the fact that a slight amount of alcohol would keep up the inflammation of these nerves. The patient may have been abstaining absolutely from alcohol, and have been treated with strychnia and hydraulic acid, with marked improvement, and he will return to the doctor with a decided relapse, and questioning will reveal the fact that he has had one or two drinks. The patient must abstain absolutely from the exciting cause, if there is to be any permanent improvement.

SPECIAL THERAPEUTIC ARTICLE.

A CASE OF EPILEPSY.

By E. J. Melville, M. D., St. Albans, Vt.

Without entering into a preamble upon the etiology and treatment of epilepsy, I wish to report the following case which may be of interest to the profession:

D. S., male, aged 6 years at present writing. When fifteen months old was taken with sudden attacks of vertigo, falling in tracks as if shot, remaining unconscious for about a minute, then recovering slowly, with an almost constant desire to sleep for the next twenty-four hours. These seizures were attributed to indigestion by the family physician and occurred at intervals of about three months for the first year. When the case came into my hands, June 12th, 1904, the boy was five and one half years old and the attacks had become of daily occurrence, sometimes, in fact they occurred three times in twenty-four hours. Undoubtedly, they were of the epileptoform character, yet lacked in a marked degree many of the classical symptoms of that disease. Without warning, the boy would suddenly duck his head and collapse, his head striking some nearby object or the floor. He usually fell forward and his forehead was covered with old scars from former falls. He lay prone a moment, his arms and legs twitching convulsively, the pupils dilated, the urine and faeces escaping involuntarily,—then quickly regained his feet in a dazed condition. No aura nor indisposition preceded these attacks but recovery was delayed perhaps an hour before his mental balance was regained. These attacks differed from true epilepsy in the fact that no direct aura could be traced, the body was limp rather than rigid. There was no frothing at the mouth and the attacks occurred during the day. While at meals, his mother had attached a head harness to him to prevent him from falling from his chair upon the table. In stature he was stunted, his muscles were flabby, his gait unsteady, his features dull and apathetic and his appearance cachectic. Digestion poor, appetite variable and capricious. He had a very destructive disposition and loved toys only for the pleasure he gained from breaking them.

He had been through the hands of several able therapists and two eminent nerve specialists, yet the attacks grew in intensity and frequency. Many stereotyped forms of medication produced no marked change in his condition finally.

I gave neurilla in teaspoonful doses, well diluted with water, four times daily, and increased gradually. The frequency of attacks lessened at once and improvement began. Since July 12th, 1904, he has had no other medicine excepting a weekly calomel purge and the boy has to all appearances and purposes, recovered.

As soon as his attacks ceased, his confidence in his powers of locomotion asserted itself, and he began to enjoy boyish games in the open air. From a destructive and irritable child he has become a normal boy, as ardent for fun or story as any. He has steadily gained in strength, flesh and stature and his intelligence is almost equal to boys of his own age. He still (Jan. 4th, 1905) takes neurilla in teaspoonful doses night and morning and with the dropping of the head, he was only troubled once, (Nov. 8th, 1904) in four months.

THE TREATMENT AND CONTROL OF THE TUBERCULOUS PATIENT IN HIS HOME.*

By Lawrence F. Flick, M. D., of Philadelphia, Director of the Henry Phipps Institute.

At last the genius of man has brought to bay his arch enemy. From the dawn of history until within the memory of even young men tuberculosis has been the unconquered foe of mankind, carrying on its devastation in every clime and under every possible condition. It has destroyed man and all his friends in the animal kingdom; it has roamed at will and has never known any hindrance. Now it is about to be exterminated from the earth.

This great achievement of civilization has been made possible by the wonderful discovery by Pasteur of a new world, the world of microorganisms. Pasteur's discovery was the culmination of research by scientists who had gone before him, but it was his genius which interpreted correctly the enigmas which had been partly solved by his predecessors. Pasteur was followed by a host of ardent explorers of the new world, each bringing to light some new fact which augmented man's power over disease.

Quite naturally one of the diseases upon which the new light was most likely first to be thrown was tuberculosis. In every part of the world scientists devoted themselves to the study of this disease. Koch's discovery of the tubercle bacillus moreover made investigation along the line of this disease more attractive and easier than along lines which had not yet been so well explored, so that the growth of knowledge about this disease was more rapid than that about any other. The bacteriologist, the pathologist, the clinician, and the veterinary surgeon have vied one with another to throw new light upon this subject.

The bacteriologist studied the life history of the tubercle bacillus and made this microorganism as well known to us as are many of our domestic animals and house plants. He made us familiar with the conditions under which the microorganism grows, the food which it consumes, the products which it gives off, and the things in nature which are inimical to its life. He revealed to us its variations in form, its chemic composition, its idiosyncrasies, in short, gave such complete knowledge about it that it has come into our power to control its existence.

The pathologist studied the tissues upon which the tubercle bacillus grows. He re-

*This article was published in the September number of the (Vt.) Health Bulletin and was read at the 1904 School of (Vt.) Health Officers. Its great value leads us to reproduce it.

vealed to us the changes which take place in those tissues and the process by which the microorganism gets into them and again gets out of them. He made known to us which tissues of the body are most prone to invasion by the microorganism and what the consequential damages are in the organism by reason of the injury done to the tissue invaded. He also made known to us the process by which the organism endeavors to make repairs and what the condition of the tissue is when it has been repaired.

The clinician gathered up and analyzed the symptoms which are set up by the organism when invaded by the tubercle bacillus and its associates, and showed us the value of such symptoms as indicators of the invasion of the disease before its presence can otherwise be demonstrated. He showed the methods by which the disease is communicated from one individual to another, the conditions under which implantation takes place, the environments which are most conducive to the development of the disease, and the circumstances under which the disease can best be resisted. He studied the relationship between nutrition and tuberculosis, and made known to us the mode of life and the kind of food which help the organism to recover when it has been invaded by the disease. He also proved the value of many medicinal remedies in helping nature to throw off the disease. He taught us the best practical measures for the prevention of the spread of the disease by the destruction of the microorganism before it can enter another host.

The veterinary surgeon demonstrated the unity of tuberculosis throughout the animal kingdom. He showed us that while the tubercle bacillus varies in form and in likes and dislikes accordingly as it has grown upon different soils it nevertheless is the same microorganism wherever it may grow, and can be trained to grow upon soils to which it is not congenial. He showed us that if tuberculosis is to be exterminated it must be attacked from all quarters, and that the possibility of its intertransmission between human beings and animals must be obviated. He pointed out to us the various ways by which intertransmission of human and animal tuberculosis may take place, and the rules and practices which ought to be observed in order to avoid such intertransmission.

Knowledge gained from all these sources enables us to lay down certain definite propositions about tuberculosis which point the way for both treatment and control of the tuberculous. 1. Tuberculosis is a house disease; it runs its course in the house, and it proves fatal in the house. Without the house it could not continue to exist. 2. Tuberculosis is a family disease. The home which is the center to which the family is drawn also is the center from which tuberculosis radiates. All the sweet ties of affection which hold members of a family together are mediums of distribution of tuberculosis. Intimacy is the line along which contagion travels. The kiss, the handshake, the embrace, and every custom which from time immemorial has been consecrated to the home, is a means of spreading tuberculosis. Intimacy, as a rule, is necessary for the spread of the disease. 3. Tuberculosis is, in a measure, an occupation disease. Occupations which bring people close together under unhygienic conditions, particularly where irritating substances are given off during the manufacturing processes, damage the mucous membrane of the lungs and serve as mediums for conveying tuberculous matter, often are the means of spreading tuberculosis. The enclosures in which such occupations are followed moreover frequently produce soil for the tubercle bacillus in the occupants by the debasement of nutrition from want of air. 4. Tuberculosis is a disease

of the poor, downtrodden, and debased. The tubercle bacillus does not grow well in healthy tissue. It cannot get a foothold in the tissues of a person who is in a strictly normal condition. It must have tissue which is already somewhat debased, for a place of beginning. Overwork, under-feeding, under-airing, dissipation, physical injury to tissues by traumatism or by other diseases, are the usual forerunners of tuberculosis. 5. Tuberculosis is a slow, long-drawn-out disease which, as a rule, kills by inches. Even the cases which are known as galloping consumption, have had a long period of unrecognized quiescence. The average duration of tuberculosis probably is ten years. Perhaps two-thirds of this time is a period of delicate health merely. There are no symptoms, but the person is looked upon by everyone as a delicate person. 6. Tuberculosis is a curable disease. The tubercle bacillus is not a virulent parasite for human beings. It is only when associated with other micro-organisms that it becomes dangerous, and even then it does not destroy much tissue at a time. Unfortunately, when unchecked, it continues to make inroads until it has destroyed so much tissue, and has damaged so many organs that the toxemia of a simple ordinary cold may prove fatal. Its inroads can readily be checked, however, by healthy nutrition. Just in proportion as the body is restored to a normal condition of health the tubercle bacillus deteriorates, ceases to reproduce itself, and gradually becomes exterminated. Every living organism has within itself the power of self-protection by which it can fight off parasitic life. It can produce an antitoxin which neutralizes the toxins produced by the parasitic microorganisms, and it can produce cells which destroy the microorganisms themselves. That the human body can destroy and cast out tubercle bacilli is no longer to be doubted. 7. Tuberculosis can be prevented. This is the brightest star in the firmament of modern science. No deduction from the new knowledge about tuberculosis stands out more boldly and unequivocally than this. That which is due to life is perpetuated by reproduction; stop the reproduction and it becomes extinct. The tubercle bacillus ordinarily only can reproduce itself in a host. Its life outside of a host is dormant. It hibernates, so to speak, during this time in a cache consisting of broken-down tissue or dead tissue cells. This cache is easily discernible at the time that it is given off by the old host. The matter which constitutes the cache is known in common parlance as pus or sputum. It is through this pus or sputum, and through this alone, that tuberculosis can be conveyed from one person to another. Science has discovered many substances which will destroy the life in this pus or sputum, and destruction of the pus or sputum by fire is a very easy matter. Sterilization or destruction of all matter given off by the tuberculous at the moment when it is given off absolutely prevents new implantations. What can be done with one tuberculous person can be done with a hundred, and what can be done with a hundred can be done with a thousand. Theoretically, at least, it is impossible for every tuberculous person on earth to sterilize or destroy every particle of tuberculous matter before any of it can get into another person. Practically, the prevention of tuberculosis, then, is a question of ways and means of how to bring every tuberculous person under control. 8. Tuberculosis exists in every part of the world, in every climate, and in all seasons of the year. It has existed at all times of which we have any historic record. It is the most prevalent of all diseases, and causes more deaths than any other disease. It causes from a seventh to a tenth of all the deaths throughout the world. The treatment and control of the tuberculous, therefore, is a

universal problem. It must be worked out in every part of the world, and the methods used must be such as can be used in any part of the world. (9) The extermination of tuberculosis in animals must go hand in hand with the extermination of tuberculosis in human beings. Every precaution must be taken against intertransmission of animal and human tuberculosis. Each of these tasks should stand on its own foundation, but they should be carried on simultaneously and in harmony one with the other. The crusade against tuberculosis in the human race should not be made to carry the burden of the crusade against tuberculosis in the animal kingdom by the dissemination of false doctrines about intertransmissibility, neither should it be impeded by the dissemination of false doctrines about nonintertransmissibility. That animal tuberculosis can be conveyed to human beings is a settled fact. How frequently or infrequently this happens has little bearing upon the subject, one way or the other, except in so far as false notions about this matter may lead to improper measures for the prevention of tuberculosis.

Tuberculosis can be successfully treated anywhere. Climate has practically nothing to do with the matter. Formerly, climate was looked upon as the most important factor in the production of tuberculosis, and consequently it was also looked upon as a most important factor in the treatment of it. For many men it is difficult even at the present time to give up these ideas. It has been demonstrated, however, by practical tests, that the disease can be successfully treated anywhere, and comparative statistics of results obtained show conclusively that climate practically plays no role in the matter at all. Even in large cities, on small streets, good results are obtained at the present time by modern scientific treatment.

Modern scientific treatment of tuberculosis means a carefully selected diet, life in the open air, regulation of exercise and such medication as will help injured organs to do their work in a physiologic way. The diet must be one which will give the largest amount of nutrition with the smallest possible amount of labor on the part of the organs making the nutrition. Food, therefore, must be selected not only for its nutritive value, but for its nutritive value plus the ease with which it can be transformed into tissue. Of all foods, milk undoubtedly is the one which gives the best returns in nutrition for the smallest consumption of energy. Next to milk come eggs, after these beef and mutton, and then leguminous vegetables. Meat contains a great deal of nutritive value, but its transformation into tissue uses up a great deal of energy, and for this reason it ought to be used only once a day. For the average tuberculous subject a good diet is one consisting of one meal of solid food a day, and three quarts of milk and six raw eggs a day. Fruit of all kinds may be allowed, and some of it should be used daily. Nuts which are easily digested, such as almonds, walnuts and pecans, may be used, and it is good practice to permit of their use at pleasure, as they require considerable mastication. No food should be permitted which is used for the mere purpose of tickling the appetite, and, above all things, pastry and dainties should be forbidden. The milk and eggs may be distributed over the day at intervals of two hours, but no milk nor eggs should be taken within two or three hours of the full meal before or after. The doctor should always definitely lay down the time at which food should be taken and the amount to be taken, and he should impress it upon the patient that the full quantity must be taken each time, whether there is a desire for it or not. When patients are assured that they can take this quantity of food and that it is beneficial to them to take it, even when they are nauseated, they will take it as a matter of

course, whereas otherwise, with preconceived notions about their inability to take it, they will decline it.

Life in the open air must mean just what the words indicate. The patient should be in the open air twenty-four hours out of the twenty-four. If it is possible to put him out in a tent he should be put in a tent. If this cannot be done, the hours which are spent in the house must be spent in a room which is well ventilated and in which the windows are always open. There must be no half-heartedness in this matter and drafts must be absolutely disregarded. A room should be selected in which there are windows on two sides at least, and these windows must at all times be kept open. This does not mean in fine weather only, but at all times, winter and summer, rain and shine. If windows must be closed temporarily during a storm to protect the furniture, they must be opened as soon as the storm is over. Rebreathed air is very harmful to a person suffering from tuberculosis and must be avoided under all and any circumstances. Products of combustion are carried off by the lungs in the exhalation of air. These substances are poisonous to the organism and thus do harm aside from the injury which results from insufficient amount of oxygen. Air purifies itself by circulation and for this reason outside air is practically always free from any poisonous products of combustion. Air in a room can only be purified while in motion, hence a room is never properly ventilated unless air can enter from one side and pass out from the other. When a patient is exposed to a draft he should be protected against reduction in temperature by proper clothing. Night air must be supplied as freely as day air. If anything night air is superior to day air, particularly in cities, because it is free from irritating substances. In this connection it should always be borne in mind that it is physically impossible to take what is ordinarily known as a cold from exposure to a draft. Colds are all due to microorganisms and always are contracted by contagion.

It is very important to control the amount of energy used up by muscular action in the treatment of tuberculosis. Muscular action consumes energy and throws into the circulation products of combustion. When the organism is already on the verge of bankruptcy it is an easy matter to bankrupt it by an excessive amount of physical exercise. Persons who have fever or who are far advanced in the disease should not be allowed to take any exercise at all. As the fever disappears and as the patient gains in strength, exercise may be gradually taken up, but it must be so gradual that fatigue may always be guarded against. One severe fatigue may change a favorable case to an unfavorable one. It is safest to begin with a few minutes' mild exercise, such as walking twice a day, and gradually add from two to five minutes a day until the patient is able to walk several hours without fatigue. When fatigue is experienced by the amount of exercise permitted, the time should be cut down to a point at which fatigue does not ensue. With patients who have cavity formations and who have dilation of the right ventricle, exercise should be taken up with the most extreme care. With some of these patients physical exercise can never again be taken up and they must be content with a life of inactivity. They have lost their reserve lung capacity and are unable for this reason to take exercise without putting a severe strain upon their organism, and especially upon the heart.

Medication in the treatment of tuberculosis should always be a secondary matter and should be resorted to only as a help to organs which are unable fully to perform their functions. In most cases stomachics and digestive

ferments are indicted, because the stomach is not well able to do the amount of work thrown upon it unaided by artificial means. The bowels, which are apt to become clogged, need to be cleaned out frequently by some such purgative as epsom salts or castor oil. The heart needs to be closely watched and when overacting, as indicated by an accentuated second sound, should be relieved by some such drug as nitroglycerin. Opiates and alcohol should never be used; neither should any drug which is depressing either upon the nervous system or upon the heart. The old-fashioned cough medicines should be absolutely eschewed. When the patient is suffering from a cold some benefit may be derived from the ammonia preparations, but even these should be used only temporarily. A safe rule is to use no drug unless there is positive indication for it.

The control of tuberculosis can be summarily expressed in one word, cleanliness. It must be absolute cleanliness, however, and cleanliness in the light of modern science. Old ideas about cleanliness will no longer suffice. Civilization long since has taught us to dispose of certain dejecta of the human body in a way which prevents the return of those dejecta into the body with food and drink before they have been broken up into their elementary constituents by the chemistry of nature. Civilization, however, still permits us to carry with us on our persons other dejecta which are even more prejudicial to health, or if not to carry them about with us on our persons to throw them anywhere that is convenient. In the light of modern science, such practices can no longer be looked upon as consistent with cleanliness. We now know that the human organism frequently has to combat parasitic microorganisms, and that it throws out these microorganisms by way of the respiratory tract as well as through the excretory organs. It may be, indeed, when all the facts are known, that we will find that parasitic microorganisms are more frequently thrown off by way of the mucous membrane of the respiratory tract than by any other channel. The secretions of the mucous membrane of the nose, throat, and lungs, and the broken down tissue which is thrown off from the lungs in cough, very frequently contain microorganisms which have been ejected from the system because they are prejudicial to it. Expectoration, therefore, of all kinds, as ordinarily practiced, is prejudicial to health and is inconsistent with cleanliness from a scientific point of view.

Inasmuch as the mucous membrane of the respiratory tract may become a culture medium for parasitic microorganisms, and the lung tissue itself may become such a medium, and inasmuch as when these parts do become culture mediums for parasitic microorganisms nature throws off these microorganisms through a hypersecretion or through broken-down tissue, all of which must come away in the form of expectoration, it goes without saying that expectoration is just as necessary to physical well-being as is the removal from the body of any of the dejecta. Expectoration, therefore, cannot be stopped, and in itself cannot be at variance with cleanliness. The method of disposing of expectorated matter, however, is at variance with cleanliness, and must be changed. In the light of our new knowledge, all matter which is given off from the mucous membrane of the respiratory tract must be disposed of as carefully and with as much forethought for the safety and comfort of others as are other dejecta of the human body. This can easily be done. Already civilization has provided us with means of disposing of expectorated matter with perfect safety to ourselves and to others. For people who expectorate very little a paper napkin and a paper bag in which to deposit the paper napkin are

all that is necessary. These can be had very readily at the present time at stores which deal in such commodities. For people who expectorate a great deal many devices are at command. Paper pocket spitcups are ingeniously gotten up for us, and various kinds of impervious paper boxes nicely fitted into a tin box with a cover on are available. When none of these things can be had, an ordinary earthen coffee cup with a handle to it, into which ordinary Red Seal lye and water may be deposited, can be had. It is possible, therefore, at the present time for everyone to dispose of expectorated matter without prejudice to himself or to anyone else.

For the poor, the simpler the method of disposing of expectoration, the more likely it is to be carried out. The manner of doing it, moreover, must not attract too much attention. Many devices for the disposal of expectorated matter are objectionable from this point of view. Nobody, for instance, cares to be seen with a sputum flask, and there is something suggestive of uncleanliness in the use of such a flask which is repulsive to a great many people. Paper napkins and paper bags can easily be concealed, either in a cabba or a pocket, and have the additional recommendation of being very cheap. Among the poor, therefore, more probably can be accomplished by recommending the use of these means for the disposal of expectorated matter than by any other.

The treatment and control of tuberculosis in practice, at least, falls to the doctor and nurse and health departments. Unfortunately, none of these is at present properly equipped for the work. The education and training of doctors and nurses in the past has, if anything, unfitted them for the scientific treatment and control of the tuberculous. Departments of health, with few exceptions, are not well enough organized and equipped to carry out the modern requirements for the prevention of tuberculosis. It therefore yet remains to educate properly and train the people who are to carry on this work and to organize and equip the departments of government through which the official part is to be accomplished.

Quite naturally, the most efficient factor in the treatment and control of the tuberculous would be the family physician, if he were properly equipped for the work. Could every family physician of the land at once be transformed into an expert on tuberculosis, the tuberculosis problem could be solved in a very short time. This, of course, cannot be done. With the older physicians, the best that can be hoped for is to convince them that tuberculosis is contagious, curable, and preventable, and to induce them to drop old methods of treatment with alcohol, opiates, and depressants, substituting therefor commonsense diet with outdoor life. It is not in the nature of things for them to equip themselves to make early diagnoses and to apply modern remedies in a scientific way. They could do much, however, if they would look upon every one in a delicate health as a victim of tuberculosis in some form and would at once institute what may be called hygienic treatment by diet and outdoor life with a view of reestablishing good health. By these men every delicate person should be looked upon as a tuberculous subject until the contrary is proved. Of the younger men, some have had better training in the modern methods of physical examination, but even with these the training has been entirely theoretic, and they often are at sea when they come to its practical application. It is surprising how few men in the practice of medicine are capable of making an exact record of the condition of the heart and lungs. It is the experience of all sanatoriums which have been established for the treatment of early cases of tuberculosis that examiners for the sanatoriums, who have

been carefully selected in the vast majority of instances, send cases relatively far advanced for incipient cases. The fault undoubtedly has been with our medical schools, and this fault still exists. Physical examination of the heart and lungs is an art and not a science, and can only be learned by apprenticeship under a master. Medical colleges teach it as a science, but not as an art. Unfortunately, they are not equipped to teach it as an art. In order that medical colleges may be able to teach the art of early diagnosis in tuberculosis it will be necessary for them to equip wards for the treatment of tuberculosis in all its stages according to modern methods. Every medical college should transform the top story of the hospital attached to it into a ward for the treatment of tuberculosis, with a roof garden as part of the equipment. In this way the college would attract the material necessary for the training of its students. It would be able to treat successfully tuberculosis in all stages of the disease, to make cures in many of its cases, and, quite naturally, the tuberculous poor would soon flock to it in consequence of the work done. Such an arrangement would enable colleges to train men properly in the early diagnosis of tuberculosis and in the modern scientific treatment of it.

Nurses, like doctors, will have to be educated along new lines to make them available in the crusade against tuberculosis. As nurses are now trained, they are of little value in the care of consumptives. In the first place, by reason of false ideas about the contagion of tuberculosis, they have such a fear of the disease that very few are willing to be engaged in such nursing. All over the country hospitals and sanatoriums for the treatment of the tuberculous practically have to train their own nurses, either out of raw material or out of nurses who have already had a general training. It is even difficult to get this raw material. A woman who has been properly trained to take care of a consumptive need have no fear of the disease, because she controls the situation and has it in her power to make the consumptive absolutely harmless. It is largely because trained nurses know nothing about tuberculosis, and have not been trained to nurse tuberculous subjects that they have such a fear. In such a large undertaking as the stamping out of a disease like tuberculosis, it would be worth the while of every hospital in the country to open a ward for the treatment of consumptives, if for no other purpose than the proper training of nurses in the care of them. Next to the doctor, no one could do more effective work that the nurse were she properly equipped.

Departments of health will nearly all have to be reconstructed before they can take an active part in the crusade against tuberculosis. As things now are, very few governments have departments of health properly organized for this work. For governmental control of tuberculosis, it is necessary to have, first, machinery for the registration of every case of tuberculosis. Second, machinery for supplying material aid and proper instruction to the consumptive poor, who are unable to help themselves. Doctors and nurses should be sent to these poor people to treat them, educate them and help them. Third, have hospitals for the treatment of the dying consumptives who cannot be properly cared for at home, and sanatoriums for the treatment of earlier cases. Fourth, legal enactment and machinery for the enforced isolation of vicious consumptives who refuse to be instructed and persistently decline to live up to such rules as are necessary for the protection of others. Fifth, machinery and equipment for the sterilization of all places which have been occupied by consumptives. Sixth, legal enactment and machinery for the regulation and control of ventilation and clean-

liness of all workshops of any and every description. Seventh, legal enactment and machinery for the control of the spread of tuberculosis in domestic animals. A department of health properly organized for such work as here outlined and properly equipped must be more that the tail of a political kite. It must be a department of the government depending upon the central executive power properly organized under the law, and operating strictly within the limits of the law. As yet, there are few such departments of health in existence.

In conclusion, it only remains to be said that the treatment and control of tuberculosis must largely be carried on in the home of the patient. The disease is too prevalent to be dealt with in any other way. Hospitals and sanatoriums are proper adjuncts, but must be viewed as adjuncts. They are necessary for the treatment and control of exceptional cases. The majority of cases can be treated and controlled in their homes, and as a matter of economy, will have to be thus treated and controlled. The most efficient machinery for this work undoubtedly is the dispensary. A dispensary for the treatment and control of the tuberculous poor should be opened by departments of health and by all hospitals. The Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis opened a dispensary on a large scale on the general plans laid down by Calmette at Lille, in February, 1903, and since then the city of New York and a number of New York hospitals have opened dispensaries modeled on the same plan. The operation of these dispensaries has clearly demonstrated that they are the most efficient weapons so far known in the crusade against tuberculosis. The results of treatment are exceedingly good and the educational work and control of patients is quite efficient. Best of all, the patients are educated and restored to health without undue interference with their ordinary avocations and without pauperization. Each department of health should establish a dispensary at once, and cities in which no departments of health exist should get up organizations for the purpose of opening dispensaries.

NEWS, NOTES AND ANNOUNCEMENTS.

THE WORK OF THE TUBERCULOSIS COMMISSION.

The Vermont State Tuberculosis Commission have been very active during the past month and have held many public meetings throughout the State. Enthusiastic meetings, with large interested audiences have been held at Waitsfield, Stowe, Bethel, South Hero, Cambridge, Essex Junction and Vergennes. Various members of the commission have been present and addressed the people on the various aspects of the tuberculosis question and the great interest manifested in every community shows that there is an awakening to the importance of the subject and a real demand on the part of the people for enlightenment.

All physicians should aid in the labors of the tuberculosis commission by doing all in their power to get the people out to these meetings when held in their respective towns. Fortunately, there has been thus far no lack in point of attendance and enthusiasm, but if the people see that their local physicians are interested, the effect cannot fail to be beneficial.

Education of the people to the dangers of tuberculosis, the methods of its prevention and the value of good pure air in its cure, is the mission of the tuberculosis commission. With the medical profession to help them, the commission can accomplish much during the next two years in diminishing consumption in Vermont. The sincere desire of all medical

men for this consummation, can be shown in no surer way, than by extending to our state tuberculosis commission our earnest co-operation at every opportunity. The commission are ready at all times to hold public meetings where they are invited, and physicians who have the interests of their communities at heart will see to it that the commission are not only invited to their towns but that suitable arrangements are made for a successful meeting.

PULMONARY DISEASES IN 1904—Pneumonia heads the list of fatal maladies in Philadelphia, with consumption a close second. The total number of deaths from pneumonia during 1904 aggregated 3,360, as compared with 3,107 from consumption. Much of the pneumonia is attributed to the cold, damp trolley cars. Notwithstanding that death has been frequent from pneumonia and consumption, the health of the city is regarded as good. The total number of deaths during the year reached 25,972, which is an increase of 25 over 1903. The death rate per 1,000 inhabitants for 1904 was 18.44, as compared with 18.82 in 1903. The deaths from pneumonia in 1904 show an increase of 180 over 1903, and the total reached 3,180. The deaths from consumption in 1904 exceed those of 1903 by 54. Deaths from typhoid fever in 1904 reached 744, which is 213 less than during 1903, while the deaths from smallpox last year were 229, a decrease of 49 from the figures of 1903.—*Jour. of A. M. A.*

The Burlington and Chittenden County Clinical Society held a regular meeting at 162 College street, Thursday, December 29, 1904, at 8:30 P. M. The following programme was submitted: The Misplacements of the Intra Abdominal Viscera and Their Effects, by Dr. S. E. Maynard. The discussion was opened by Dr. D. C. Hawley. Refreshments were served at the close of the meeting.

RECENT DEATH.

Peter Reid McMonagle, M. D., University of Vermont Medical Department, Burlington, 1859, died at his home in Prescott, Ont., December 20, aged 71.

REMOVAL OF SUPERFLUOUS HAIR—One of the best depilatories, as suggested by Duhring (*Journal of American Medical Association*), consists of from 2 to 4 drachms of barium sulphide, with enough starch and zinc oxide to make an ounce. The sulphide should be mild and freshly made and kept tightly corked. At the time of the application sufficient water is added to make a paste, which is spread thickly over the part and allowed to remain one or two minutes, then scraped off, and soothing ointment or dusting powder is applied. The application is repeated every week or two, or as soon as the hair has reappeared.—*Denver Medical Times.*

As the cold weather approaches certain diseases and remedies will be more on the mind of the profession. Among the latter will be cod-liver oil. Hagee's cordial of cod liver oil compound is not only one of the most popular cod liver oil preparations on the market, but one of the very best, if not, indeed, the best itself, nor is its use restricted to the colder months, as is the case with the other preparations. The writer has for some years prescribed it freely in the summer months, and with great satisfaction. All the nutritive properties of the oil are retained and the disgusting and nauseating elements are eliminated. Combined with hypophosphites of lime and soda it offers to the profession a reconstructive of great value.—*Massachusetts Medical Journal.*

The Vermont Medical Monthly.

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Burlington, Vt., January 25, 1905.

EDITORIAL.

MRS. ROGERS' REPRIEVE.

Governor Bell certainly did a brave act when he granted Mrs. Rogers, the Bennington murderess, a reprieve until June. There was much opposition to this course of the Governor, but to his credit he exercised the prerogative of his office without fear and has given Mrs. Rogers' friends one more chance to show why the majesty of the law should not be upheld.

As in our editorial of last month we do not question the woman's guilt nor do we attempt to condone the atrocity of her crime. Our sympathy with a reprieve was and is simply based on her mental irresponsibility. We maintain that the woman is a moral degenerate, absolutely devoid of mental responsibility. Hence her legal execution will be wrong and unjust.

Although there is no legal provision for such a procedure, we believe that Governor Bell will add greatly to the reputation of Vermont by appointing a commission of nine men, to serve without remuneration and as a courtesy to the Governor and the community, who shall investigate Mrs. Rogers' mental responsibility. Their report shall serve to justify the Governor's final action if he decides to commute her sentence to life imprisonment or lets her hang when her reprieve expires. No one can ever then question the course of the Governor for he will have fortified himself by the best and most conclusive means within his power. It will be a progressive step and we believe one that will meet with widespread approval. If responsible and sound mentally let her hang: if not, and she is found to be a moral degenerate as we earnestly believe she will, her sentence should be commuted, for her execution would be a blot on our civilization for which no Governor and no people could ever claim justification.

BURLINGTON'S IMPURE WATER.

It is about time that the people and proper authorities of Burlington awoke to the fact that the city water supply is seriously contaminated. For a long time certain individuals have known that Burlington water was bad, but for some unknown reason the facts have not been aired nor any active attention paid to the matter whatsoever. At the request of Governor McCullough the U. S. Geological Survey are conducting an investigation of conditions in Lake Champlain and when the government report is published, some startling facts will doubtless appear.

In the meantime local authorities in Burlington should give the matter intelligent attention. The more or less constant presence of cases of typhoid fever in Burlington, to say nothing of many kindred intestinal disorders is a disgrace to any community. The definite relation which impure water bears to ill health is so well understood, that it is difficult to account for the little attention that has been paid the subject. A few law suits against the city on behalf of individuals who have suffered from the impurity of the public water

supply might stimulate some activity. That such law suits are a possibility is suggested by the evident failure of the city to fulfill an implied contract to furnish pure water to its citizens. If the impurity of the water supply was only temporary and the result of unavoidable causes, the liability of the city might be doubted. But in the face of constant pollution, which can easily be prevented by appropriate measures, there can be no question of the legal responsibility of the city government.

In the interests of those who are using Burlington water and the good name of the city we sincerely hope that some steps will be early taken to correct existing evils.

EDITORIAL NOTES AND CLIPPINGS.

A DEPLORABLE CONDITION OF AFFAIRS.

The facts revealed by the recent aristol investigation in Chicago are horrible in the extreme: almost shattering one's faith in mankind. When 108 out of 139 supposedly reputable druggists are proven to be at least criminally negligent, if not wilfully criminal, it makes one sick with digust. These are strong words, but not as strong as the facts warrant. When a druggist, a pretender to professional standing, a claimant to at least ordinary intelligence, allows Fuller's earth colored with oxide of iron to go into a prescription for aristol, as many of these men did, there is no excuse under the sun for him.

True, most of the druggists involved assert they purchased the stuff in good faith. That is, they admit they knew it to be a substitute for aristol, but though it was "just as good." Think of it! The pitiable spectacle a man makes in offering such an excuse!

This is not sensational talk. We wish it were not a hundredth part as bad as we announce. But the truth is that when the real facts became known to some of those druggists in Chicago who really care for the good of pharmacy and have a pride in their profession, it made them sad beyond words. As another evidence of the terrible extent to which this fraudulent stuff was sold (though the above figures are evidence enough) it is asserted that one Chicago jobber in just one day after the story of the investigation prematurely leaked out through the post-office department, which was assisting in the investigation, sold 429 ounces or aristol, more than before in months. If the fact that the investigation was being made had not leaked out it would have included every drug store in the city. As it is, the authorities have not stopped working, but it is hardly to be supposed that they will find many more cases like the above.

The samples for analysis were collected by a messenger boy and an adult companion, the former presenting a prescription for aristol signed by a certain doctor. In one case the messenger paid fifty-five cents for a quarter of an ounce of Fuller's earth.

The only grain of comfort an honest man can find when he contemplates such conditions in a profession in which he is interested, is the hope that it is mostly brought about from criminal carelessness, and not with a full realization of the matter, which would make it criminal intent.—From the December Number of *The Apothecary and New England Druggist.*

MEDICAL ABSTRACTS.

Management of Pneumonia—The first consideration in the treatment of pneumonia, says Osborne, should be the establishment of hygienic surroundings, such as a well ventilated room, with plenty of fresh air. That pneumonia can abort itself that it can also be assisted to abort, may not infrequently, but

often is, true. He says: "The profuse sweating caused by a gram of antipyrin, with the action of some brisk purge, followed by morphin to stop the pain, and dry cupping, or, if preferred, a hot poultice, may and often does abort a case of pneumonia." The old treatment with aconite and veratrum viride will probably give the same results, although Osborne prefers not to use these drugs because of the fear of prolonged cardiac depression. In cases not aborting, the nutrition should be sufficient, but not so forced as to cause gastric flatulence or tympanitis. The nutrition should consist of milk, a quart in twenty-four hours, two raw eggs a day, given in bouillon, with coffee or with sherry or brandy, as seems best. Expressed beef juice, which means more than the blood from meat, is one of the best heart muscle stimulants and should be given in ounce doses three or four times a day. For the bowels, use small glycerin enemas, or, if necessary, a small amount of some saline, such as Hunyadi water. Sponging the extremities and the abdomen (not the chest) with tepid water will reduce the temperature. Gentle massage of the extremities promotes excretion of muscle toxins. Insufficient leucocytosis demands some nuclein preparation, such as nucleic acid, in the dose of one grain, three or four times a day, or thymus, in doses of three grains. Osborne favors warm, moist applications, preferably the old flaxseed poultice, bound tightly to the chest during the first stage to mitigate pain and to add to the general comfort of the patient. Such applications should not be allowed to become cold. He doubts the value of such applications in children, believing that they play a part in causing an empyema. In stopping the use of the poultices, it is important to reduce their size gradually and then to put on some warm, dry absorbent cotton. For the irritating cough, he prefers codein in small doses so as not to depress the respiratory center. The best stimulant for the bronchial mucous membrane he believes to be ammonium chlorid in small doses, especially if combined with a very small amount of ipecac and put up in an acid preparation, such as syrup of citric acid or dilute phosphoric acid in watery solution. Alcohol should not be relied on for a long time in cardiac depression, although for a short time it will tide over such depression and whip up a flagging heart. The dose of whiskey should be such as not to give strong odor to the breath, nor to cause a dry skin or a bounding pulse, but just enough to keep the surface of the body warm and the pulse regular. If the heart still fails, and the pulse is bad, not more whiskey shoud be given, but other cardiac stimulants. Many cases of delirium are caused by an overdose of alcohol. Nitroglycerin, 1-200 of a grain, every three to six hours, or a hypodermic of 1-100 of a grain, will give a flagging heart a start and allow time to get the action of other drugs. Venesection of a few ounces of blood will relieve cyanosis, jugular throbbing and a laboring right heart. In any stage of the disease, an irregular pulse tension demands strychnin, 1-30 of a grain, every six hours. Caffein, in the form of coffee, should be given from the beginning of pneumonia, at least once a day, in the morning. Coffee is a food and a cardiac stimulant and tonic. Aromatic spirits of ammonia, or camphor water or spirits are good substitutes for caffein. In acute heart failure a hypodermic injection of a saturated solution of camphor in olive oil may be used. Adrenalin or suprarenalin solution 1 to 1,000, may be used in drops on the tongue, 5 drops every fifteen minutes, several times in an emergency, or 5 drops every three hours regularly. Osborne sounds a note of warning against using suprarenal extract in large doses, or for too long a time, as it may cause depression. Oxygen Osborne considers of undoubted value in emer-

gencies, but says that it should not be considered curative. High injections or normal saline solution are indicated when the kidneys are not acting well or the patient not taking sufficient liquid, provided there is no edema anywhere. During convalescence from pneumonia, if the pulse and heart are weak, he favors the use of tincture of strophanthus in from 5 to 8 drop doses every six hours. To combat sleeplessness, chloral and hyoscin should be used. Ergot is indicated to strengthen a weakened circulation. Severe headache may be often well combated by an ice cap or a saline purge. Profuse perspiration should not be discouraged at any time. Osborne gives no opinion as to the value of the serum treatment of pneumonia.

Epidemic Cerebrospinal Meningitis—The treatment of epidemic cerebrospinal meningitis, according to W. J. Wilson in *Jour. Mich. State Med. Soc.*, consists in sustaining life by rectal feeding of peptonized milk with yolk of egg when gastric irritability is present and a tendency to vomit. Lavage should be resorted to and light nutritious food given, such as whey, white of egg, broths and soups, administered at intervals of three or four hours. The sick room should be kept at a temperature of from 68 to 70 degrees F. If marked fever is present, the scalp should be shaved and an ice-cap applied to the top of the head and a bag to the nape of the neck. A mustard footbath is recommended by the author in some cases to relieve the cerebral symptoms.

Special attention must be paid to the bowels and kidneys, and if the urine is scanty, high colonic flushings of a normal salt solution should be given at a temperature of 110 degrees F. When active delirum is present hyoscyamin should be given hypodermically in 1-100 grain (.0006) doses.

Suppositories each containing chloralamid grains ten (.65) with or without small doses of belladonna are of benefit to produce sleep.

Large doses of potassium iodid or of sodium iodid in daily doses of from fifteen to sixty grains (1.-4.) should be tried. Mercurial ointment rubbed into the scalp and nape of the neck, morning and night, may be of service.

Pneumonia, Acute Lobar, Treatment of—The writer advises that judicious, rational treatment should be begun immediately and continued during the attack. The most useful *single agent* in treatment, as preventive and curative, is creosote, used preferably as inhalations, properly given and continued for a sufficient length of time. Strict avoidance of extremes of treatment in any direction should be observed, whether it be toward the use of so-called specifics or the employment of certain drugs, notably digitalis and strychnine. It should be graven on the mind that pneumonia may be throttled or minimized most surely in the beginning. Later, when the disease is fully developed our role is inferior, but should consist mainly in doing least harm. Harm proceeds almost invariably from ignorance or undue enthusiasm. Beverly Robinson (*American Journal of the Medical Sciences*, December, 1904.)

Pneumonia, Serum Treatment of—A sufficiently extensive trial of the antipneumococcal sera has been made to determine with a reasonable degree of accuracy their efficiency, and the results, as a whole, fail to carry conviction. An efficient serum, or one that will cut short the pneumonic process, is yet to be produced, although, according to some clinicians, the sera available at present have a restricted field of usefulness. Recent observers have employed the serum in massive doses from the commencement of the disease without gratifying results. The practical results of the

use of the antipneumococcus serum, as shown by the very slight reduction in the mortality percentage, does not warrant its general introduction. The sera thus far found possess no antitoxic qualities, and their supposed anti-infectious properties have not been proven. Further investigations into the subject with a view to discovering an efficacious serum are to be strongly advised and encouraged. J. M. Anders (*Journal of the American Medical Association*, December, 10, 1904.)

STRAY THOUGHTS.

A Gentleman Defined—President Eliot, of Harvard, is the author of the latest attempt to define that baffling word gentleman. "A gentleman," says he, "must be quiet. He must be generous, efficient, deferential to age, beauty, excellence, skill and all worthy things. He must never do anything that will hurt a woman or a child or an inferior."

That word "deferential" will jar upon some sensitive ears, but in the main the first and second sentences will excite no furious differences of opinion. But the last word in the definition—somehow, it seems to poison the whole. "Inferior"—what an ugly word it is, and how instantly it raises the nauseating odor of priggery. Can any man think of any other as an "inferior" without expelling himself forthwith from the class to which all of us aspire—the class gentleman?

"Inferior" is a dangerous word for any one to use in measuring the differences between two other human beings; it is an unthinkable word for a gentleman's use in comparing himself with another. The most perfect example of gentleman, in the high and broad sense, that this world has ever had was born in a manger in Bethlehem. Can any one conceive of the word inferior falling from His lips?

Gentleman is not a precision; it is an atmosphere, an exhalation. And it is a question whether any man ever was quite a gentleman who *thought* that he was. It goes without dispute that no man ever was who *said* so.—*Saturday Evening Post.*

Does Surgery Thwart Nature's Designs?—That a skillful surgeon may, by saving the life of an individual, thwart the wider plans of nature, is suggested by a recent writer in "*Science*," Edwin G. Dexter. A disease or a malformation may be a benefit to the race, while it is fatal to the victim. Mr. Dexter instances appendicitis as a malady to which many persons have a hereditary predisposition. If left to itself, it would shortly remove all such persons, and its course would be self-limited. We are perpetuating the disease and strengthening its cause by transmission to succeeding generations. The excision of the appendix, while removing danger to the individual, does not lessen one whit the disastrous effects upon the race. The logical result of such views as these would be the abandonment of sufferers from certain surgical diseases to their fate; but apparently no one has gone so far as to recommend this.—*Success.*

NEWER REMEDIES.

The Respiratory Link—The truth of the old adage that a "chain is only as strong as its weakest link" is forcibly illustrated in medicine. The constitution of a patient may in most of its relations be normal; yet the chain of health is impaired by one function which is the seat of more or less constantly recurring disturbances.

The most frequent form of this weak physiologic link that confronts the physician is that manifested by the patient who, with the advent of winter, suffers from repeated congestions and inflammations of the respiratory organs. It may be that at all other times of the year the individual is, as far as indications go,

in a good state of general health; it is, however, more commonly the case that the skilled diagnostician is able to recognize an impairment of constitutional vigor, which is in reality the cause of the respiratory disturbances. Present-day scientific teaching emphasizes that it is unwise to treat these patients with expectorants, cough syrups and respiratory sedatives; these latter remedies are at the best but palliative and do not reach the cause of the disturbance. It is more rational to endeavor to strengthen this weak respiratory link by restoring its integrity, and the proper way to do this is by treatment directed to the real causative factor, which is an atonic condition of the system.

The experience of many years has taught that these constantly recurring respiratory disturbances may nearly always be prevented or at least reduced in frequency and severity if Gray's Glycerine Tonic Comp. is administered throughout the winter. If, however, this precaution has not been observed and the patient is already suffering from his regular winter cough and bronchial or pulmonary distress, treatment with Gray's Tonic is still the most efficient.

The manner of the action of the remedy in these cases is two-fold: first of all it overcomes malnutrition by stimulating the torpid nutritive functions to assume normal activity; as a consequence the patient's constitutional vigor is strengthened and incidentally the relaxed atonic condition of the respiratory mucous membrane is eradicated.

The second effect of Gray's Tonic in these cases is upon the local disturbances of the respiratory mucous membrane—it has a direct antiphlogistic and tonic influence upon the disordered circulation; it thereby relieves engorgement and restores tone to the relaxed blood vessels.

Gray's Tonic is to be preferred in the management of these acute and chronic respiratory conditions, because it gives the patient relief from the very start and if persisted in, overcomes the condition completely. It strengthens not only the weak respiratory link but also the entire chain of constitutional vigor.

A Perfected Food—In treating anaemia is it not true that our first thought, and that to which our instinct should naturally lead us, is a normal blood standard? That there is a deficiency of iron in the blood in most forms of anaemia, is, of course, indisputable; and to endeavor to supply this lack by the administration of iron seems but a common sense procedure. This practice would be sufficient if anaemia were, in reality, nothing more than a condition of iron deficiency; but the profession realize now that the underlying causative factor is a disturbance of the process of nutrition and cell proliferation, and that iron poverty is but one manifestation of this disorder. Ample proof of this fact has been presented to every doctor when he has observed how anaemic conditions persist in spite of the long continued administration of the various preparations of iron. Here, then, iron preparations must be supplemented by such remedies or by such a remedy as has the ability to awaken the depressed nutritive and cell proliferating process. To stimulate, tone up and supply perfect nutrition in all anaemic conditions, I have found Bovinine to meet every indication par excellence.—*John Griggs, M. D.*

Sanmetto in Pre-Senility—I had two cases which I thought required such a medicament as Sanmetto. I prescribed two bottles of Sanmetto and gave prescriptions for more when that quantity was used up. One case was that of a man forty-two years of age, father of seven children—impotency and neurasthenia; within three days after taking Sanmetto he began to feel the beneficial results

and finally regarded himself as cured. I advised him to consult me again if he should be bothered with sexual disturbance. He is a grocer, has long hours (sixteen a day) with business and family cares.

The other case was that of a young man twenty-eight years of age, premature decay, loss of vitality, atrophied sexual organs—prescribed Sanmetto, and the changes brought about since its use are something marvelous, according to the patient. He will continue under advisement.

This testimonial regarding the value of Sanmetto is given unsolicited.

R. L. Larsen, M. D., Chicago, Ill.

Saline Laxative—"Were I compelled to practice with only two remedies I would choose the effervescent form of magnesium sulphate and the sulpho-carbolates," said an old and well-posted practician to me recently. * * * The "Saline Laxative" of the Alkaloidist is diuretic, refrigerant, laxative, carthartic and chologogue. It may be given to the youngest infant or the oldest and most debilitated patient with safety. Its use does not induce a habit. Given in teaspoonful doses in a glass of water every morning before eating will cause a normal daily stool. Obstinate cases will require repeated or larger doses. An excellent plan, when prompt and thorough elimination is essential, is to give two teaspoonfuls in a glass of *hot* water the first thing upon wakening in the morning. If the night prior four to six doses of calomel and podophyllin (a a 1-6) have been exhibited at half hourly intervals, this procedure will "flush the mains" and "rid the system of debris."—Extract from article in *Medical Summary* for December, 1904.

Literature and sample of Saline Laxative will be sent on request to the Abbott Alkaloidal Co., Ravenswood, Chicago, Illinois.

A SUBSTITUTOR CONVICTED.

Kress & Owen vs. Cruttenden—On the 8th day of December, Police Magistrate Denison, in the police court, registered a conviction against Thos. Cruttenden, Jr., who keeps two drug stores in Toronto, one at the corner of Howard and Sherbourne streets, and the other at the corner of Gerrard and Sumach streets, for infringement of the trade mark, duly registered in Canada, owned by Kress & Owen Co., 210 Fulton street, New York, "Glyco-Thymoline." The evidence conclusively showed that the defendant had put up a preparation under the name of "Glyco-Thymol," in bottles almost identical to those of Kress & Owen Co., and with labels worded verbatim at literatim to those of the original manufacturers. The magistrate, in registering the conviction, gave the defendant's solicitor, who hinted at an appeal, to understand that if he entertained that idea he would not only fine but imprison his client as the law provided. The case was adjourned for a week, at the end of which time Cruttenden, through his solicitor, gave an undertaking that he would stop all manufacture of Glyco-Thymol and destroy all labels, bottles, etc., connected with the sale of that preparation. The firm of Kress & Owen Co., are deserving of congratulation over the result of this case. They had every reason for prosecuting Cruttenden, as it was nothing short of dishonest, and entirely contrary to the law, that he should stoop to such practices and try to rob a firm, who, by strictly ethical advertising (solely to the profession) and the expenditure of about $175,000 per annum, have secured a large sale of Glyco-Thymoline, a preparation found valuable in catarrhal conditions of the mucous membrane.—*Canadian Journal of Medicine & Surgery Editorial*, January, 1905.

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ORIGINAL ARTICLES.

AN EXPERIMENTAL STUDY OF THE MOVEMENTS PRODUCED IN THE STOMACH AND BOWELS BY ELECTRICITY.*

By G. G. Marshall, M. D., Wallingford, Vt.

The animals experimented on were three cats, one rabbit, and one white rat. The stomachs of the cats were full of milk at the time of the experiment; the rabbit's stomach was partially distended with half-digested grass, on which it had been feeding, and that of the rat was filled with food of a semi-solid nature.

The currents used were the faradic (two cells), the galvanic (thirty-two cells), and the faradogalvanic. The faradic current was used in varying degrees up to the full strength of the two cells; in using the galvanic battery 32 cells were used, and in the faradogalvanic a mild current was first used, increasing the strength up to the full capacities of the batteries.

The animals were put under the influence of ether, and the mode of making the experiments was then as follows: The hair over the front of the abdomen was cut away and a median incision made through the abdominal wall, exposing the stomach and bowels. First, a moist sponge electrode was applied to the exposed stomach, and the other pole was applied to some indifferent part of the animal's body; next both poles were placed on the stomach, one at either end. A similar application to the bowels was then made. In these and subsequent experiments the three currents—faradic, galvanic, and faradogalvanic—were used consecutively. When the galvanic current was used the current was interrupted and reversed.

Next a small incision was made through the cardiac end of the stomach, just as it appears below the diaphragm. One pole was inserted into the stomach through this incision by means of an insulated copper wire. The other pole, consisiting of a damp sponge, was applied to the exterior of the animal's body at different points, and finally was placed directly on the outer surface of the stomach.

By none of these means could contractions be produced in the stomach or bowels, though when the outer pole was placed on the voluntary muscles the latter were contracted.

In some of the experiments the electrode on the interior of the stomach, which I will call the internal electrode, was in immediate contact with the stomach wall, while in others it was in contact only with the stomach contents.

Now the outer sponge electrode was replaced by a metal electrode. This electrode was applied in turn to (1) The outer wall of the stomach, (2) various points on the intestines, and (3) in the rectum.

In the experiment with a metal electrode in the stomach, and a metal electrode on its outer wall, feeble contractions of its pyloric end could be produced, but none at its cardiac two-thirds.

By applying the external electrode to the intestines distinct circular contractions were produced at the point of contact. Where the metal electrode touched the intestines the latter immediately became blanched, and then a somewhat prompt constriction took place, making the bowel look as if it had been ligated by

*Read before the Vermont State Medical Society, 1904.

a coarse string, leaving scarcely any lumen to the gut. This constriction would not disappear for several minutes. It was only necessary to make a momentary contact to the bowels, when the contraction would begin and continue after the electrode had been removed. If the end of the electrode were wound with a thin layer of wet cotton no contraction of the bowels would be produced.

With one pole in the rectum, the other electrode still being in the stomach, no movements of either the stomach or bowels could be produced, but the muscles of the back were contracted. The readiness with which the bowel contractions were produced was nearly the same with the faradic, galvanic, and faradogalvanic currents, and the contractions were equally strong with either pole of the galvanic battery.

Next, one of the pneumogastric nerves was cut down upon and isolated from the surrounding tissues. To this exposed nerve the external pole was applied, the other pole still being in the stomach. No contractions or increased peristalsis of the stomach or bowels could be produced by stimulating this nerve.

Finally, another incision was made in the stomach, near the pyloric end, and through this opening the second metallic electrode was inserted, the same as had been done at the cardiac end. Now, with both poles in the stomach, no contractions of this organ could be produced.

The conclusion formed as a result of these experiments is that the stomach and bowels do not readily contract under the direct application of electricity.

While the pyloric end of the stomach feebly contracted, and the bowels contracted uniformly under the immediate application of a small metal electrode, they would not contract when a thin layer of wet cotton was placed over the metal. A stronger current might have produced stomach contractions, but the currents used were stronger than would be employed for therapeutic purposes, and certainly the current would never be directly applied to the stomach or bowels by a metal electrode, as was necessary to produce contractions in these experiments. It should be made clear that the contractions produced in the bowels had no semblance to peristaltic movements, only the circular fibers being constricted.

Hence we may conclude that electricity, as generally administered, either percutaneously or directly, never causes contractions or increased peristalsis of the stomach or bowels.

Other experimenters have obtained similar results, as will be shown later on, yet many modern writers are of the opinion that gastric and intestinal contractions can be produced by electricity.

Butler, in his work on "Diagnosis," says that the peristalsis may be made more active by electricity, and Edwin Martin, in Hare's "Practical Therapeutics," reports the successful treatment of intestinal obstructions by faradism; one pole over the bowels and the other in the rectum. Kussmaul reports having seen contractions of the stomach in a patient with thin abdominal walls, produced by having one electrode in the stomach and the other held in the patient's hand.

Einhorn and Ewald also believe stomach contractions are produced by direct electrization. I, too, thought I was able to produce contractions of the stomach and bowels, and had so stated in a paper published in *Medical Record* of August 8, 1903.

While making the preceding experiments it was observed that when the external electrode was applied over the front of the chest, the diaphragm and the intercostal muscles were violently contracted, and thus depressed the stomach and liver much below their normal positions.

I believe it is the contraction of the diaphragm that gives the patient the sense of stomach contractions, and in thin persons a visible distention of the abdominal wall, by the pressure downward of the stomach, caused by contraction of the diaphragm, may have been mistaken by some observers for peristalsis of this viscus.

Other experimenters do not believe that the stomach can be contracted by intragastric electricity. Thus Hemmeter, in his work on "Diseases of the Stomach," says: "We do not wish to imply that it is absolutely impossible to contract the human stomach by electricity, but the currents required to effect this must be so strong that the experiment becomes hazardous." Goldschmidt, Manges, and others drew similar conclusions.

Meltzer, in the *New York Medical Journal* of June 15, 1895, reports his experiments on animals' stomachs and bowels by the use of the faradic current. The results of his experiments were very similar to my own, except that he was able to produce more marked contractions of the pyloric end of the stomach by applying the two poles on its outer surface.

Meltzer concludes from his experiments that the mucous membrane of the stomach and bowels, especially of the former, is nearly a nonconductor of electricity, and that it is with difficult that a current can be passed through it. He says: "A very strong current will finally penetrate the stomach wall," and again he says: "The mucous membrane of the stomach offers the greatest resistance." While he says the stomach muscles are less susceptible to electrical currents, he attributes this in large part to the nonconductive character of its mucous membrane. He states further that by removing the normal membrane from the tongue and placing over this a piece of mucous membrane of the stomach, no contractions of the tongue could be produced.

Hemmeter has stated in his work, quoted above, that the passage of electricity through the stomach may be due to detached particles of mucous membrane.

To determine the conductivity of the stomach mucous membrane, I further experimented as follows, using the faradic current:

1. With one electrode in the stomach and the outer pole applied to the skeleton muscles, the latter always reacted to a (weak) current, essentially the same as though the pole that was in the stomach had been placed on its outer surface, demonstrating that the current had passed through the stomach.

2. The finger was used for the external pole and applied to the outer wall of the stomach, the other pole remaining in the stomach; here the feeblest current was detected by the sensory nerves of the fingers, which would not be possible if the current did not pass through the stomach wall.

3. The stomach was incised along its lesser curvature; its contents were removed, and then the whole organ was lifted out and laid on the abdominal muscles, just to one side of the median incision. One pole was then placed on one extremity of the animal, and the other pole was passed through the incision in the stomach to the mucous membrane of that part of the stomach which was resting directly on the abdominal muscles. When this was done the abdominal muscles beneath responded quickly to every touch of the electrode to the mucous membrane of the stomach, the same as when the muscles themselves were touched, showing that the current passed through the mucous membrane, though the stomach itself did not contract.

These experiments demonstrate to my mind that the mucous membrane of the stomach

offers no unusual resistance to electric currents, and that the failure to produce contractions of the stomach is in no way due to a nonconductive character of its mucous membrane.

Since making the above experiments I have further experimented on the human subject, for the purpose of determining if, by the percutaneous method of electrization, any of the currents really entered the stomach. For this purpose I constructed a stomach electrode, having two poles, each pole being connected to a telephone receiver by insulated wires. This electrode is introduced into the stomach, and its two poles being immersed in the fluids of the stomach about three inches apart.

Then by placing the poles of a faradic battery over the stomach, one in front and the other on the back, the make and break of the vibrator was distinctly heard in the receiver, demonstrating positively that the current had entered the stomach.

It will be understood that there was no metallic connection between the telephone and the faradic circuit; that the telephone circuit simply shunted a part of the current flowing through the stomach, and that the presence of the telephone receiver and its electrodes in the stomach could in no way cause the current to flow through the stomach, but simply indicated its presence there.

In making these experiments I was assisted by Dr. J. H. Buffum.

ONE HUNDRED PREGNANCIES.*

By Dr. L. H. Ross, Bennington, Vt.

This paper is a report of 100 consecutive cases of pregnancy seen by a general practitioner in an ordinary town and country practice.

*Read before the Bennington Co. Medical Society.

They have been divided into two classes:

those ending in abortion	19
and those ending in labor at term	81

For use in this paper the term abortion applies to all deliveries prior to the end of the 6th month. This follows the advice of Dr. Holton, secretary of our State Board of Health, who considers all fetuses of 6 months and over as viable and as subject to be reported as births.

The 19 abortions occurred in 16 women, 3 having aborted twice. There were 6 primiparae, 11 multiparae and in two the number of the pregnancy was unrecorded. A placenta was present in 10 cases, was absent in 8, and in one there is no record.

The causes of the abortions are:

Surgical	1
Accidental	4
Probably accidental	4
Criminal	8
Probably criminal	2

The surgical case was a primiparae and was necessary because of excessive vomiting. A placenta was not present.

Of the 4 accidental abortions, a lacerated cervix caused two in one woman. The cause of the two others is uncertain. A placenta was present in one of these four.

In all four of the probably accidental a placenta was found.

Every one of the 8 criminal abortions was acknowledged to be so. Placentas were found in one-half of the cases.

Both of the probably criminal cases had placentas. According to Dr. James H. Etheridge in the "American Text-book of Obstetrics," the relative frequency of abortion to labor at term has been estimated variously by different authors at 1:5½ and 1:8. In this series the relative frequency is about 1:4¼.

Of the 81 confinements at term, 4 were seen in consultation—two because of retained

placentas which were removed by Crede's method under ether and two craniotomies.

The remaining 77 will now be considered. Only 15, or less that 20% looked to the physician for any care or attendance before the labor pains began. Four of these had albumen in the urine at some time during pregnancy and one had 5-10 to 8-10 of 1% of sugar during the sixth and seventh months. At no other time in her life has sugar been found in her urine.

The following table gives the number in each different pregnancy:

1st pregnancy	23	8th pregnancy	2
2nd pregnancy	16	9th pregnancy	1
3rd pregnancy	14	10th pregnancy	2
4th pregnancy	5	11th pregnancy	1
5th pregnancy	4	12th pregnancy	1
6th pregnancy	2	13th pregnancy	2
7th pregnancy	3	14th pregnancy	1

It was possible to get an accurate statement concerning the length of pregnancy from 30. Eliminating one of 199 days and one of 226 days, in which the babies showed unmistakable evidences of not being fully developed, there remain 28. In all of these the exact date of the beginning of the last menstrual flow could be ascertained. The shortest period was 258 days in a primipara and the longest 306 days also in a primipara. This last occurred in a woman who was not married until 13 days after her last menstruation began. Excluding her, the next longest period was 301 days in a secundipara. Accepting 280 days as the normal duration of pregnancy, there were 10 shorter, 17 longer, and only one exactly 280 days. The duration of pregnancy should be spoken of in three cases in particular. The last menstrual flow of one began Nov. 4 and the birth occurred Aug. 19, 288 days after. This woman, however, left home before the flow started and did not see her husband until Nov. 27. From this date to the birth is 265 days. In the 2nd case the length of time from the wedding day until the birth of the child was 249 days. The third case presents the singular fact that there was but one act of coitus between the birth of one child until the birth of the next—the length of pregnancy being 266 days. None of these infants showed any signs of being premature and the character of the women upholds their statements. The number of the pregnancy seemed to have no effect upon its length as will be shown by a comparison of 3 who have been delivered twice.

	1st pregnancy	*2nd pregnancy*
1st	286 days	279 days
2nd	258 "	264 "
3rd	265 "	281 "

The youngest mother was 16 and the oldest 46. The former was delivered of her first child and the latter of her 17th. Eight women were under 20 years of age; 48 were in the twenties; 17 in the thirties and 4 in the forties.

An attempt was made to collect data concerning the duration of labor but with no success. However, it might not be out of place to report two cases in detail. A woman of 29, in her second pregnancy, awoke at 5 A. M. with a slight pain in her stomach, as she thought. It lasted about a minute but she sent her husband for the doctor. At 5:30 A. M. and 6 A. M. she had pains. The last pain appeared at 6:20 A. M. when she was on her feet preparing to urinate. Labor lasted 1 hour and 20 minutes with only 4 very light pains.

The 2nd was a primipara of 21 and was first seen on Feb. 14. She presented an os dilated to the size of a 10 cent piece. Pains came at 45 minute intervals but the patient remained up and did her work until Feb. 20, at which time the os reach full dilatation. Forceps were applied and the child delivered 144 hours after the patient was first seen. The only evidence that there had been any liquor

amnii in this case was the remnants of the amniotic sac. The woman acknowledged the making of several attempts to abort, with a knitting needle.

In the 77 pregnancies there was one pair of twins, making 78 children, of which 39 were boys and 39 girls. Seventy-five were vertex presentations and 3 breech. The occiput was anterior 48 times and posterior 17. The first twin was breech and the second vertex. Forceps were used three times.

It was necessary to use Crede's method to get the placenta in 19 cases, in the rest (58) it came spontaneously. The weight of one placenta which seemed exceptionally large was 3¼ lbs. The length of the cord was measured in 33 cases. In five it was under 20 inches—the shortest being 10 inches. This one broke as the body of the child was being extracted. The lengths of two were over 30 inches—38 and 40 inches respectively. The 38 inch cord was attached to an 11 lb. baby and the 40 inch one to the smallest—a 4 lb. one. It was around the neck twice. The cord was found around the neck in 16 cases, around the body in one, and around the neck and body in one.

The weights of 63 babies were recorded. The lightest was a girl of 4 lbs. She was a second child, the first being a boy of 7½ lbs. The heaviest was an 11¼ lb. boy of a primipara. The average weight was 7½ lbs. Twenty-nine males averaged 8 1-15 lbs. and 34 females, 7 1-7 lbs. There were five weighing less than 5 lbs.—all of which were girls. Six weighed 10 lbs. or over, with only two girls. The lightest male child was an even 5 lbs., the heaviest female 10 lbs. Only 7 of the 34 girls weighed over 8 lbs., while 11 of the 29 boys tipped the scales above that figure.

Perineums were torn in 13 cases—six of which were deemed sufficiently bad to need repairing, but this was allowed in only 3 cases with good results.

There were two still-born children—both in negroes.

Six mothers were unmarried.

Two were delivered while standing.

In two cases the hymen had to be cut before the head would emerge, and twice the head ruptured the hymen.

Three mothers had a temperature above 100° during puerperium.

Battledore placentas were present twice.

Velamentous insertion of the cord occurred twice.

Thrice an O. L. P. failed to rotate to the front and the child was born face to the front.

It had been my practice to give one dram of Fl. Ext. Ergot or its equivalent as a routine treatment as soon as the placenta was expressed. This treatment was carried out in the first 38 cases with the following results:

	Severe after-pains.	*Light after-pains.*	*No after-pains.*
Multiparae	15	6	5
Primiparae	3	0	9

To the remaining 39 ergot was administered only once with these results:

	Severe after-pains.	*Light after-pains.*	*No after-pains.*
Multiparae	4	8	16
Primiparae	0	1	10

The omission of the ergot has relieved so many women of after-pains that now I give the ergot only in cases of a very flabby uterus.

One case in the series deserves special notice. Quoting directly from my notes,—"primipara, 30, pelvic bones unyielding, pubic arch narrow, O. L. A. labor progressed normally until in the 2nd stage just after rotation, when advancement ceased. No advance during next

2 hours; forceps advised but the family objecting I waited another hour, when forceps were applied and child delivered—perineum very slightly torn—no stitches." For two days the woman's condition was about as is usual except for the necessity of catheterization. On the 3rd day her temperature was 99.6°; on the 4th 100° and at 5 P. M. on the 5th 100°; at 10:30 P. M. she had a severe chill with T. 103° and P. 140. Suspecting infection, an intra uterine douche was given and nursing stopped. For two days pulse ranged from 100° to 110°, T. never above 99.6°. On the 3d day baby was returned to breast. In the afternoon, chills began again with temperature and pulse rising. Stopped nursing 1½ days. Within two hours after the baby was put to the breast for the third time the pulse registered 160 and the temperature 106.6°. In consultation it was decided that the high pulse and temperature were due directly to the nursing. This was stopped and after the next morning the mother had no temperature above 99°.

THE MEDICO-LEGAL ASPECTS OF THE PATRICK CASE.

REPORT OF SPECIAL COMMITTEE.

To the President and Members of the Medico-Legal Society of New York.

Your committee appointed through the President of this Society to investigate the effects of the embalming process on congestion of the lungs, before rigor mortis, without withdrawing blood from the body, beg leave to report.

The committee were informed that an hypothetical case would be presented, but we well understood, that the case of the People vs. Patrick, which had been tried in the criminal court of New York in 1902, when it was alleged, that a murder had been committed by the administration of chloroform, and that upon evidence produced at that time, had resulted in the conviction of Patrick for murder in the first degree, followed by sentence of death, would be used as a text in the so-called hypothetical case, and from a review and study of this case must depend our findings and upon which we would rely in forming conclusions regarding the true cause of death.

The following questions and general statement bearing upon the facts presented at the trial of Patrick were furnished by your President:

MEDICO-LEGAL SOCIETY.

OFFICE OF THE PRESIDENT, NEW YORK CITY.
1905.

To Dr. A. P. Grinnell, 500 Fifth Avenue, Chairman of the Select Committee, named to investigate the effect of the embalming process on congestion of the lungs, before rigor mortis, without withdrawing the blood from the body.

Gentlemen:

The following questions are submitted to you for examination and report, based on the following statement as to facts:

Mr. Patrick was tried and convicted on an indictment charging murder in the first degree, by the administration of chloroform by inhalation, through the agency of Mr. Jones, valet of Mr. Rice, an aged and wealthy man in whose employment Jones served as valet, and who had been directed as was alleged, by Patrick, to commit the crime. An appeal to the court of appeals is now pending from that conviction.

The evidence of Jones, who turned states evidence, as to the administration of chloroform, will be submitted to you from the record on appeal, or abstracts of the same, showing the history of the administration, as shown to the jury.

The body was embalmed by a professional embalmer about two hours after death by the

arterial process, no blood at all being taken from the body.

A single incision was made in the right brachial artery underneath the arm-pit by the injection of an embalming fluid containing formaldehyde gas in solution. The solution employed was that known as the "Falcon," manufactured by the Max Hoenecke Chemical Co. Please also consider the manner of the embalming the "Cavity" and its effects on the case.

The embalming process was conducted by one John S. Potter, employed by Charles Plowright, the undertaker.

The evidence of the embalmer from the printed case, or an abstract of it, will be submitted to you.

The autopsy was made by two coroner's physicians, Drs. Williams and Donlin, forty-three hours after death, in the presence of a professional chemist and expert, Dr. Witthaus.

The autopsy as made from the evidence as contained in the printed case on appeal, and the evidence of Drs. Williams and Donlin, and the chemical expert, Dr. Witthaus, will be submitted to you from the printed case, or abstracts of the same.

A single lengthwise incision was made in each lung, and the evidence will be laid before you, as given by the witnesses before named.

The body was cremated, the lungs not being taken out, by the coroner's physicians. The chemist took the viscera for chemical examination, except the lungs, which he left in the body and they were cremated with it.

The testimony of all these witnesses and all the evidence in the case from the printed case on appeal will be submitted to you, or abstracts from the same, on all the questions bearing on this inquiry.

The prosecution contended that the death resulted from the administration of chloroform, or on the evidence of the witnesses above named, and other evidence.

The jury found a verdict of guilty on the evidence above referred to, and without reference to any congestion of the lungs from the embalming process, based on the condition of the parts as seen, and without any claim or assertion that the embalming process would affect the lungs.

The questions submitted to you are as follows:

1. Would the embalming of a human body by the arterial process with the "Falcon" solution, two hours after death before rigor mortis had set in, as described by the witnesses in this case, produce a congestion of the lungs, similar in appearance and character to the condition produced by poisoning by chloroform inhalation?

2. Would an embalming process two hours after death by the arterial process as described, before rigor mortis, without removing the blood, as described by the witnesses in this case, produce any congestion of the lungs, and how far would it resemble the condition of the lungs produced by the administration of chloroform?

3. Would the condition of the lungs, as described in this case, indicate the cause of death, and to what extent, and describe how far would the congestion of the lungs after such an embalming process resemble or differ from that condition, which would be conclusive proof of death resulting from poisoning by the inhalation of chloroform?

4. If the finding of the jury, that the cause of death was due to the administration of chloroform, based on the medical and other expert testimony given in this case, and herewith submitted to you, please report what effect the embalming process, as shown herein, would have on the body and lungs, when none

of the facts of the embalming were explained or shown to the jury.

5. To what extent would the condition of the body, the viscera and the lungs be affected by the embalming of the body, as described herein, and what would be that condition if the death was not produced by the inhalation of chloroform?

6. If chloroform had been administered, as shown by the accomplice Jones, in this case, what in your opinion would have been the condition of the body, viscera and lungs after the embalming process described, had been used?

7. Would the medical witnesses be able to discriminate from the post-mortem condition between the administration of chloroform as a cause of death or as the result of the embalming process? What reliance could be placed on medical witnesses who based their opinion on the administration of chloroform as the cause of death, and who did not take into consideration the fact that the body had been embalmed as described by the evidence?

8. Please report as to the result of your examinations of all the medical and other evidence bearing on the issues submitted to you, the actual cause of the death of the deceased Rice, and the reasons on which your opinion is based.

9. If you are unable to report the actual cause of death from the evidence, state why and give the reasons therefor.

10. If in your opinion the cause of the death is uncertain or doubtful, report fully your view and reasons therefor.

11. State whether from all the evidence the death of Rice resulted in your opinion from the administration or inhalation of chloroform and the reasons and basis of your conclusions.

The Medico-Legal Society in consenting to take up this case at the suggestion of a member who is interested for the defendant as counsel, distinctly disclaims any interest pro or con in the case and will only consider it with strict impartiality and not in the interest of the defendant or of the prosecution. It will only pass upon the medico-legal questions involved.

The committee in the consideration and decision of these questions submitted, should eliminate from their minds all questions respecting the guilt or innocence of the defendant, or the bearing of their opinion on the case in the courts. The simple scientific medico-legal question is intended to be presented without reference to the result of their opinions and considered only in the scientific phases presented.

If any gentleman named on the committee is in any way interested in the trial, either for the defendant or the people, he is requested not to serve so that the action of the committee may be of value to medico-legal science and be creditable to the fair name of the body which submits it to your consideration.

Make the report in writing, and if all do not agree on a report, let each member have the right to present individual views.

You are employed by the society to take such additional evidence from any source you deem reliable, as to the questions submitted, either under oath or on voir dire of competent persons.

You may conduct the examinations and the researches you think necessary in such manner as you deem best, and you may take the written opinions of competent experts at a distance, if you believe it will aid you in reaching the truth.

Any three of your members may constitute a quorum and if any vacancies occur in your number notify the president and the vacancy will be filled.

Please make an early report.

Respectfully,

CLARK BELL,

President.

The select committee appointed by the chair is composed as follows:

A. P. Grinnell, M. D., chairman, 500 Fifth Avenue, City; Prof. H. S. Eckels, 2005 Market Street, Philadelphia, Pa.; Hon. Wm. Francis, 758 Broad Street, Newark, N. J.; Justin Herold, M. D., 325 East 87th Street, City; James Moran, M. D., 345 West 58th Street, City; Veldemar Sillo, M. D., 406 West 57th Street, City.

The committee have, in compliance with the provisions contained in the above instructions received and reviewed all the testimony as recorded.

We have also entered into a general correspondence with the most distinguished bacteriologists, pathologists, embalmers, and authors upon subjects connected with this branch of science.

We have experimented upon animals, cadavers, noting with great care the appearance after death of the lungs and other portions of the body, and used in confirmation of the different tests, employed different methods and material used where bodies are to be preserved by the embalming process.

We have read all the testimony from the official records which bears in any way upon the medical aspect of the case, leaving out all consideration of a legal character or such evidence touching upon the motives, intents, or other matters not relating to the case from a purely scientific or medico-legal point of view.

In order that the committee should be in possession of all the facts pertaining to the case upon which the hypothetical one was based, a letter was forwarded to the district attorney's office and to the lawyers conducting the prosecution of the Patrick case inviting them to appear before the committee either in person or by representatives, and furnish the committee with any information which would aid the committee in making up complete and truthful answers to the questions propounded.

The investigations as conducted by your committee begin with the first acquaintance of Dr. Walker Curry and William M. Rice and his subsequent professional relations with the deceased up to the time of his death.

William M. Rice, the deceased, was examined April 10, 1900, by Dr. Walker Curry, who found him suffering from a weak and slow action of the heart; his pulse was only 54, soft and compressible; he had dropsy of the lower limbs from the knees down and so swollen were his feet that he had always to have his shoes made expressly for him. He was 84 years of age. He had cyanosis or blueness of the face.

On September 8, 1900, he became greatly depressed on account of business troubles, which produced great mental strain, and his pulse then increased to 60, but was soft and weak.

On September 13, the doctor was of the opinion that, with his weak heart and mental worry he *might die any time*. On September 15th, he ate nine bananas at one time, about half of which were baked and half raw. He had diarrhoea during the night with eleven stools.

On the 20th, he ate a quantity of eggs and vomited incessantly for two or three hours.

On Saturday, September 22nd, the day preceding his death, and up to the time of his death, he suffered from a mild intermittent delirium, and there is some evidence as to his having some trouble about urination.

On the 23d the doctor's attention was attracted to his breathing. His respiration was about 23 to the minute with a deep inspiration every minute as if in want of air. This condition continued to the day of his death.

Examination on the 21st, and next day, did not disclose any congestion of the lungs, nor did the doctor detect any when last he called

at eleven A. M. on Sunday, the day of his death.

The doctor was called in about eight o'clock Sunday night, September 23, and found Mr. Rice dead, and apparently dead about thirty minutes.

He made two careful examinations and observed no odor or other evidence of chloroform or of asphyxiation. He gave a certificate that death was due to old age, weak heart, diarrhoea and mental worry.

An undertaker came immediately and the body was embalmed about two hours after death.

Both the arterial and cavity process were employed substantially as follows: The embalmer made an incision into the brachial artery in the upper right arm into which he injected a colorless limpid fluid containing formaldehyde gas in solution, the Falcon brand, to such an extent that the embalmer swore that "the blood was driven out of the arteries around and back to the heart and through a large channel (obviously the pulmonary artery) connecting the heart with the lungs and the air, and into the cellular tissues of the lungs." He swore that he made but a single incision into the vascular system in this process and that he took no blood from the body at all. This is to be borne in mind because ordinarily the blood is withdrawn through a vein tube inserted into the bascilica vein, penetrating to the upper vena cara.

After completing the arterial process the embalmer did the "cavity work" as follows: With a hollow needle he penetrated the abdomen and punctured the intestines, and injected through such needle a quantity of embalming fluid, thus disinfecting the contents of the intestines.

Forty-three hours after death an autopsy was performed by the Coroner's Physician Donlin in the presence of the Coroner's Physician Williams and Dr. Witthaus, the chemist and toxicologist.

CORONER'S OFFICE, CITY AND COUNTY OF NEW YORK—AUTOPSY.

An autopsy performed on the body of William M. Rice at morgue, on the 25th day of September, 1900, at 3 o'clock P. M., about 43 hours after death, by E. J. Donlin, M. D., coroner's physician, revealed:

"Inspection—Body emaciated; rigor mortis slight, small abrasion of back just to right of one lumbra vertebra; sutured wound of abdomen about 2½ inches to left of umbilicus, P. M. sutured wound at upper third of right arm (inside) P. M.

"Abdomen—Contained about a quart of embalming fluid.

"Left lung congested and oedematous. Right lung same and a small area of consolidated lung tissue about the size of a 25-cent piece in lower lobe.

"Heart—Pulmonary and aortic orifices slightly contracted.

"Liver firm, otherwise normal.

"Kidneys firm, capsules not adherent, surfaces granular, markings fairly distinct, and a number of small cysts. Pelvis R. K. dilated.

"Brain—Oedematous and pale. Bladder contained about five ounces of urine. Stomach empty. Colon slightly congested and contained a pale, pasty and lumpy faeces. Small intestines contained a small quantity of bile stained fluid.

Cause of death .....

(Signed) E. J. DONLIN, M. D.
Coroner's Physician."

Subsequently Charles F. Jones, who was referred to as valet Jones and who was deceased sole attendant, testified that on Sunday afternoon, Sept. 23rd, 1900, the day of Mr. Rice's death, the latter insisted upon getting out of bed and sitting by an open window in his

underclothing; that he talked for some time and refused to return to bed, but finally arose to go but could not do so on account of weakness, that Jones picked him up and carried him to his bed; that he seemed dazed and talked irrationally and that he then went to sleep, lying on his back, and did not ever after change his position; that several hours later, about eight o'clock, Jones took a face towel and wrapped it about his hand in cone shape and pinned it; that he then inserted into the cone a small sponge; that he then poured upon the sponge about one and a half or one and three-quarters ounces of chloroform; that he then set the base of the cone upon Mr. Rice's upturned face, covering his mouth and nose, staying only long enough to balance it in position; that he noticed no movement on the part of Mr. Rice; that he then hurriedly left the room, shut the door and remained outside thirty minutes, after which he returned and found Mr. Rice in the same position, with the cone balanced as he had placed it, then he took the cone, consisting of the towel and sponge and put it in the kitchen range, where there was no fire, and touched a lighted match thereto, and that it burned up quickly like oil.

The questions submitted to you are as follows:

1. Would the embalming of a human body by the arterial process with the "Falcon" solution two hours after death before rigor mortis had set in, as described by the witnesses in this case, produce a congestion of the lungs, similar in appearance and character to the condition produced by poisoning by chloroform inhalation?

The embalming could not produce a congestion of the lungs or any part of the body, because a true congestion is a condition only found as a result of disease or injury, occurring in a living person.

But the condition found after embalming to the ordinary observer or to the naked eye, is so like a true congestion that a microscopical or bacteriological examination would be required to distinguish between them.

Therefore the answer to this question would be "Yes."

2. Would an embalming process two hours after death by the arterial process as described before rigor mortis, without removing the blood, as described by the witnesses in this case, produce any congestion of the lungs, and how far would it resemble the condition of the lungs produced by the administration of chloroform?

The embalming of the body by the arterial process as described by the witnesses in this case, does produce a condition or appearance similar to a congestion caused by chloroform inhalation or other irritating substances; but differs in one essential way, viz., that the embalming fluid reaches both the pulmonic and systemic circulations, or in other words, the embalming fluid passes through the pulmonary artery and engorges the parenchyma of the lungs and also through the bronchial arteries to all parts of the lungs where nutrition is sustained, thus causing congestion so-called to all lung structures.

Therefore it could not be determined upon autopsy as described in the evidence whether the condition found depended on the effects of chloroform inhalation or upon the embalming fluid, either or both.

3. Would the condition of the lungs, as described in this case, indicate the cause of death and to what extent, and describe how would the congestion of the lungs after such an embalming process resemble or differ from that condition which would be conclusive proof of death resulting from poisoning by the inhalation of chloroform?

It would be impossible from the findings of the coroner's physician at the autopsy as appears in the testimony to have determined the cause of death, from the appearance of the lungs *alone*, owing to the fact, that every and all portions of the lungs being filled with em-

balming fluid associated with oedema (dropsy) making it impossible to dis-associate the embalming fluid from chloroform or its effects, if present.

Or in other words, there was nothing found in the lungs *per se* which would indicate or be conclusive proof of the cause of death.

4. If the finding of the jury, that the cause of death was due to the administration of chloroform, based on the medical and other expert testimony given in this case, and herewith submitted to you, please report what effect the embalming process as shown herein, would have on the body and lungs, where none of the facts of the embalming was explained or shown to the jury.

An answer to this question involves the committee in expressing an opinion respecting how far the jury would be able to decide the question of the cause of death as depending upon the inhalation of chloroform, when it (the jury) had no knowledge of embalming fluid, or, in the event of their knowing it, how could the jury be able to say, that death was actually caused by chloroform *alone*. The committee are not called upon to estimate the value of ability possessed by the jury, in coming to a conclusion respecting the cause of death, formed upon the medical testimony introduced, but the committee fail to see how any jury could arrive at a conclusion regarding the cause of death, without fully considering the fact of chloroform inhalation and the presence of embalming fluid, being associated together as important factors in the case.

5. To what extent would the condition of the body, the viscera and lungs be affected by the embalming of the body, as described herein, and what would be that condition if the death was not produced by the inhalation of chloroform?

From the evidence in this case "the body was well embalmed." That is, every organ, (viscera) and tissue of the body contained embalming fluid, and all portions of the body when exposed to the air, gave out a strong odor of formaldehyde gas. The effect of embalming fluid upon all portions of the body, whether associated with the administration of chloroform or not, would be (if remaining in the body long enough) to bleach the tissues. (Testimony of Dr. Witthaus).

We are unable to state that the appearance of an embalmed body would be in any way different, where death had resulted from inhalation of chloroform than would be found where death resulted from any cause.

6. If chloroform had been administered as shown by the accomplice Jones, in this case, what in your opinion would have been the condition of the body, viscera and lungs after the embalming process described had been used?

It is *assumed*, not *proven*, that the deceased was living when the chloroform was administered by Jones. But assuming that the deceased *was* living at the time the chloroform was administered, then the appearance of the body would not furnish sufficient evidence of death having occurred from chloroform, because all portions of the body were infiltrated with embalming fluid and to isolate one from the other, by the appearances found, in establishing the true cause of death, would have been impossible.

7. Would the medical witnesses be able to discriminate from the post-mortem condition between the administration of chloroform as a cause of death or as the result of the embalming process? What reliance could be placed on the medical witnesses who based their opinions on the administration of chloroform as the cause of death, and who did not take into consideration the fact that the body had been embalmed as described by the evidence?

It would be impossible for any one to discriminate from the post-mortem appearances between the administration of chloroform as a cause of death, or as the result of the embalming process as stated in the evidence.

No one could truthfully have stated that death was wholly caused by the inhalation of

chloroform from appearances as presented at the autopsy, because of the presence of the embalming fluid, and furthermore because chloroform was not found by chemical tests.

No reliance could be placed upon the conclusions found or opinions expressed by a witness respecting the cause of death as shown in the lungs to be from chloroform or any other cause, without taking into consideration the fact of the body having been embalmed.

8. Please report as to the result of your examination of all the medical and other evidence bearing on the issues submitted to you, the actual cause of the death of the deceased Rice, and the reasons on which your opinion is based.

The Certificate of death as furnished by Dr. W. Curry, and issued two hours after death, read as follows:

"Death was due to old age, weak heart, diarrhoea and mental worry."

From the testimony of Dr. Curry, it appears that the deceased had been under his professional care for about eight months preceding his death, and during all this time, Mr. Rice was suffering from *old age, weak heart, indigestion* and *diarrhoea* at intervals, *mental worry*, and *oedema* (dropsy) of the lower extremities.

At eleven A. M. on the day of Mr. Rice's death and about eight hours preceding it, Dr. Curry found him suffering from practically the same symptoms as above described, with the addition of increased frequency in respiration, some intermittent delirium and the conditions heretofore noticed as somewhat aggravated.

At 8 P. M., same day, the doctor called and found Mr. Rice dead, and, apparently had been dead about thirty minutes. No odor of chloroform was detected by him throughout the room, or on close inspection of the body and no evidence of asphyxiation. Very shortly following this examination of the deceased, Dr. Curry issued the certificate, as above stated. From all the testimony bearing upon this phase of the case, including the evidence of Jones, and the findings of the coroner's inquest, we have no reason for changing the certificate of death, as issued by Dr. Curry and upon which the coroner permitted the cremation of Mr. Rice's body.

9. If you are unable to report the actual cause of death from the evidence, state why and give your reasons?

We are satisfied from a review of all the evidence that the deceased Rice died from old age, weak heart, immediate effects of indigestion, diarrhoea, oedema (dropsy of the lungs,) cerebral anemia and mental worry, or in other words from the condition embraced in Dr. Curry's certificate of death and upon which the authorities permitted the body to be cremated.

10. If in your opinion the cause of death is uncertain or doubtful, report fully your views and reasons therefor?

We as a committee are agreed as to the cause of death and entertain no doubt respecting the truthfulness of the statements embodied in the certificate of death as made out by Dr. Walker Curry.

11. State whether from all the evidence the death of Rice resulted in your opinion from the administration or inhalation of chloroform, and the reasons and basis of your conclusions.

The committee are agreed after carefully alalyzing all the medical and other evidence furnished upon this case that Mr. Rice did not die from chloroform poisoning and furthermore that no chloroform was administered by Jones as stated by him, to Mr. Rice, while the said Rice was living, because it would have been impossible for the towel cone, containing chloroform, to remain unsupported upon the face of Rice, while asleep.

It is also the opinion of the committee without exception that no chloroform was ever ad-

ministered to Rice by Jones as stated by him, because it would have been impossible not to have detected the odor of chloroform either in the room occupied by the deceased, or from the body, as the amount of chloroform employed, as alleged, would have saturated the beard of the deceased and retained the odor for many hours, however thoroughly the apartments may have been ventilated.

The testimony of Jones that a lighted match applied to this towel containing about two ounces of chloroform was followed by a "burning up quickly like oil" is absurd, because in an experiment performed by us in like manner, required over fifty minutes in consuming the towel.

The answers herein contained to the several questions propounded are necessarily condensed but they represent the conclusions reached by the committee after a great deal of research and upon reading a mass of evidence given at the trial; upon the statements of authors on this branch of science; upon individual experience and experiments and upon answers to the questions furnished and forwarded to us by experts, who are engaged in this line of scientific investigation.

As chairman of the committee I respectfully beg to acknowledge the services rendered by all the members of the committee in securing evidence to be used in formulating answers to the questions propounded and I congratulate the society upon being so fortunate in its selection of so many gentlemen of distinction, who have through their effort solved a scientific problem, the value of which cannot be estimated, and without such assistance your chairman would have been helpless in satisfying the society's expectations.

Respectfully submitted,
A. P. Grinnell, M. D.,
500 Fifth Ave., N. Y.,
Chairman of the Committee.

Prof. H. S. Eckels,
Hon. Wm. H. Francis,
Justin Herold, M. D.,
James Moran, M. D.,
Veldemar Sillo, M. D.,
Members of the Committee.

SPECIAL THERAPEUTIC ARTICLE.

THE RECRUITING FIELD OF THE GREAT WHITE PLAGUE.*

LA GRIPPE: IT'S ALKALOIDAL TREATMENT.

By W. C. Abbott, M. D.

As ususal we have had and shall doubtless still have many and unpleasant experiences with epidemic catarrh before the spring weather puts a stop to its ravages for another six months. None too rapidly the serious character of this disease is being recognized and we no longer speak lightly of a case of true la grippe. None too soon, either, has the fact been realized that the coal-tars are the worst possible remedies to use in this disease, except perhaps for immediate relief in some cases in which the importance of the exigency outweighs the danger and the damage that may be done. It is with the idea of impressing these two points more forcibly that we thus call attention to them and what we believe to be the rational method of treating influenza of the epidemic variety.

It may be accepted as a maxim that where the bacillus of Pfeiffer has gained access, there, subsequently, is a suitable field for the tubercle bacilli. We are aware of the frequency with which pneumonia, pleurisy, neuritis, cardiac neuroses and pericarditis follow la grippe; indeed it is the aftermath which is the most to be dreaded and proves most fatal. But do we

*From the Alkaloidal Clinic.

realize just how frequently the la grippe patient becomes a phthisical subject? Those who have had the widest clinical experience and have been able to follow their cases most closely know that the proportion is fearfully great.

We cannot divest ourselves of the feeling that the treatment generally followed has more than a little to do with this state of affairs and we have reasons for so thinking. La grippe weakens the entire system; it affects particularly the cells and mucosa of the respiratory tract. The toxins generated invade the blood-stream (greatly to the detriment of the vital fluids) and it is safe to say that after a severe spell of influenza every organ of the body is more or less damaged. Yet the patient in this condition is too often filled with opiates and antipyretics; the symptoms are smothered and systemic apathy encouraged so that the victim, because he feels less acutely ill, may deem himself first "better" then "well," while the truth of the matter is that he has never been so dangerously sick as at the moment of his discharge.

Anemic, with low vitality, toxin-laden and functionating fifty per cent below normal the "cured" grippe patient is apt to fall a victim to any or every disease; at any rate is prone to and usually does relapse repeatedly, and when a patient has relapsing grip, look out. Hence, undoubtedly the large number of fatalities which are attributed to post-grippal "complications." The bacillus of Pfeiffer is not so deadly a germ in itself but it prepares the field for other and more dangerous invaders in mixed infections and it becomes the business of the physician to recognize this fact and counteract the condition.

To start at the beginning, the man or woman who falls a prey to grip is, in nine cases out of ten, generally "out of kilter." The first thing to do with such a patient is to render him as nearly normal as may be. He must be cleaned out; elimination must be stimulated and every function must receive attention. Renal and hepatic torpidity is almost invariably present and a blood-count will reveal a marked decrease of the red cells. An examination will disclose various disorders of the urinary chemistry and the exhibition of proper remedies will make it evident that the intestinal tract is teeming with waste toxin-producing matter. To relieve the fever of such a case with antipyrin or to ease the distress with morphine or codeine, and do nothing else, is to commit a serious error. Even the salicylates are out of place save in small doses and as a minor remedy.

The proper treatment of grip is, roughly speaking, as follows: As early as may be, administer a mild mercurial (blue mass one grain or calomel gr. 1-3) every hour until four doses have been taken. The addition to each dose of leptandrin and podophyllin (gr. 1-6 of each) will give better results. One hour after the last dose give a saline draught and repeat this in three hours. You will be astonished at the amount and character of the stools. From to symptoms small doses of aconitine, digitalin and strychnine, adding quinine salicylate, gr. 1-6, to each dose. As soon as the bowels have moved freely the hyperpyrexia will cease to be a feature and the aconitine may be withdrawn. Nuclein in ten-drop doses should be given every four hours and (after the bowels have acted) at least fifteen grains of the sulphocarbolates at the same intervals. Fever being reduced, bowels empty, and in the process of being rendered aseptic the digitalin may be changed for cactin or the patient receive cactin one, quinine salicylate one and strychnine arsenate one (gr. 1-67) every three hours.

At this stage the specific catarrhal and toxemic conditions should receive attention. Calcium sulphide gr. 1-6 is given hourly, calcidin

gr. 1-3 being added to every other dose. This medication with morning and evening saline draughts is continued till all distinctive symptoms have ceased—usually on the third day. If each night one hour before retiring a dram of sweet spirit of niter is exhibited with a glass of cold water, results are better. Nourishment must be of concentrated and fluid form, a little being given often. The patient must remain in a room at 70° F., and should receive a warm sponge bath daily. If an enema is given the first night, so much the better. The mouth and nares should be washed out frequently with a mild alkaline antiseptic solution and the nares swabbed with carbolated vaseline.

The acute stage over, place the patient upon calcidin in tablet, hydrastin one granule and quassin two, these things being taken one hour before meals; after eating order two triple arsenates with nuclein, and morning and night ten drops of the latter absorbed from the buccal mucosa. Thrice weekly have a saline taken on rising and the night prior some mild cathartic—the aloin, atropine and cascara compound is excellent. If there are signs of cardiac weakness cactin may be added to the before-meals medication. La grippe patients treated by this method recover promptly and enter the convalescent stage in the very best of condition.

Be sure your grip patients are well, genuinely well, before you discharge them.

Chicago, Ill.

NEWS, NOTES AND ANNOUNCEMENTS.

Dr. A. P. Grinnell, late Dean and Professor of Practice of Medicine in the Medical Dept. of the University of Vermont, has opened an office at 500 Fifth Ave., N. Y. City. Dr. Grinnell intends to devote his time entirely to medico-legal work and his large experience as a medical witness will undoubtedly make his services sought after by many. For many years Dr. Grinnell was one of the leading physicians in Vermont and much regret will be felt at his leaving the state. As he enters upon a larger field the best wishes of his numerous friends will accompany him.

Burlington and Chittenden County Clinical Society.—The regular meeting was held at 162 College Street, Thursday, January 26, 1905, at 8:30 P. M. The following programme was rendered: Syphilis, with especial reference to prevention, Dr. F. K. Jackson. General discussion. Refreshments were served following the session.

Mal-practice suits against physicians in ninety-nine cases out of a hundred, possess no other motive that a desire to avoid the payment of a just bill, an effort to extort money, or a cowardly attempt to secure revenge. Three elements are absolutely necessary to the instigation of such a suit, viz: a litigant patient, a shyster lawyer and a despicable doctor, without which combination such suits are an actual impossibility. Unfortunately every community is cursed more or less with the ingredients of this delectable compound.—*Exchange.*

Professional Harmony. — Given peace among us and good-will to all men, and the horrid and exhausting chase for the 'damned guinea' will no longer have to be so strenuous nor so grinding; we will all have enough to live on, and in addition enjoy the inestimable satisfaction, that should compensate us for many material deprivations, of belonging to an honored and honorable profession. We would then find, all of us, more leisure and more inclination to prosecute original research at the bedside and in the laboratory, and above

all to *cultivate therapeutic resourcefulness* and thus be enabled ultimately to really more often 'deliver the goods' our patients clamor for.—Croftan, in *The Alkaloidal Clinic.*

Hyoscine hydrobromate is one of the best remedies to secure sleep and relieve the tremors of alcoholism; bromides also.—*The Alkaloidal Clinic.*

For hyperemic headache apply cold to head, purge and take a hot foot bath; internally bromides, ergotine, aconitine, veratrine.—*The Alkaloidal Clinic.*

Gelseminine is also an excellent remedy for the congestive headaches; arterial sedation is the thing indicated.—*The Alkaloidal Clinic.*

Suppression of the menses is a frequent cause of headache; give a cathartic, hot foot or hip bath; aconitine or gelseminine.—*The Alkaloidal Clinic.*

For the headaches of the climacteric with hot and cold flushes equalize the circulation with aconitine or veratine.—*The Alkaloidal Clinic.*

If in sick headache there is vasomotor relaxation and pallor and coldness of skin give atropine to effect.—*The Alkaloidal Clinic.*

A New Therapeutic Agent of Value in the Treatment of Epilepsy, with the Report of a Case—Hugo Erichsen, M. D., L. R. C. P. and S., reports an interesting case in the *Medical Age,* for September 25, 1904. The author says:

"The patient had had nineteen well defined attacks of epilepsy since the summer of 1900. Shortly after the occurrence of the last I took charge of his case. Up to that time he had been taking the bromides at irregular intervals, owing to the fact that his stomach was easily deranged. Eventually they had to be rejected. Even bromide of sodium proved objectionable for this reason.

"About this time my attention was directed to "Brometone." It proved to be the very thing I was looking for, as the patient had no difficulty in retaining it and it did not give rise to untoward after effects. After taking what was evidently an overdose the patient experienced drowsiness during the day, but when the dose was reduced to 5 grains (in capsules) three or four times a day he had no further trouble in this respect.

"Brometone contains about 77 per cent. of bromine, and possesses the sedative and other characteristic effects of that agent. It is preferable to the bromides, because it does not excite nausea, vomiting, or alimentary disturbance. Moreover, it does not seem to produce the undesirable systemic depression often resulting from the older bromides. Although my patient has been taking Brometone day after day for over a year, he has not been afflicted with skin rashes or any other indications of bromism. Furthermore, he has not had an attack for sixteen months, has gained in weight, improved in appearance, and takes a more cheerful view of the future.

"From my experience with it I am inclined to believe that Brometone will prove of service in the treatment of other nervous conditions, particularly insomnia, headache, and delirium tremens. It may also prove of benefit in some cases of asthma and may relieve cough of reflex nervous origin."

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., February 25, 1905.

EDITORIAL.

UTERINE RETRODEVIATIONS.

Lucy Waite, Chicago, in the *Journal A. M. A.* for February 11, discusses whether operations for these conditions are necessary; whether they are safe surgical procedures, and whether they have been sufficiently successful to warrant their advocacy in the future. She answers each question in the negative. In 1,000 cases taken from the records of her clinic, 39 per cent. were found with retrodeviation. In 15 per cent. of these there were no gynecologic symptoms. The remainder were recorded as complicated with definite pathologic conditions, tumors, pyosalpinx, chronic disease of ovaries, myometritis, etc. She notes the effects of fixation on an organ, the interference with circulation, etc., and from all the data in her observation and from what she has found in the literature, she concludes that a normal uterus may lie in any position in the pelvis without causing symptoms, and that when these occur they are due to other pathologic complications. This answers her first question. As regards the safety of the operation of ventro-fixation, she quotes from numerous authorities showing its effects on the progress of pregnancy and delivery, and the dangers of strangulation, ileus, etc. Vaginal fixation is almost as bad in its results as ventrosuspension, and the best that can be said of the methods of shortening the round ligaments is that they are not dangerous excepting by weakening the abdominal wall and increasing the risk of hernia. On the other hand, they are unsuccessful in a large percentage of cases and, in view of the answer to the first question, are unnecessary.

This opinion from one whose experience gives ample authority to any statement, is very interesting inasmuch as it completely overturns certain ideas that for years have never been questioned, much less controverted. Uterine displacements have been religiously believed to be *the* cause of most of the symptoms that make so many women chronic invalids, but the fact that many women have had displacements with no symptoms nor distress, has apparently never impeached the etiologic importance of anatomic deviations of the uterus until now.

A little thought and study, however, will show that the uterus is normally possessed of marked mobility. Its blood and nerve supply seem especially designed to permit of free movement, without interference with proper nutrition and innervation. We believe therefore, that Dr. Waite's conclusion that other pathologic conditions will be found as true causes of the symptoms supposed to be the result of uterine displacements, are well grounded, and in the interests of honest, conservative surgery it would seem that operations for uterine displacements alone should be deprecated.

BURLINGTON WATER.

The long looked for report of the investigations conducted by Mr. M. O. Leighton, chief of the Biological Survey's division of Hydro-econmics, at the request of Hon. John

M. McCullough, governor of the State of Vermont, has appeared. The portion of the report of especial interest to the people of Vermont is that which deals particularly with the contamination of Lake Champlain by sewerage from the City of Burlington and from the Winooski River. Mr. Leighton reaches the conclusion that sewerage pollutes practically the entire shore from Colchester Point to Shelburne Bay and includes within the contaminated area the water intake of the Burlington city supply. *The inhabitants of Burlington are drinking from their own cesspool!*

This condition of affairs is outrageous and a disgrace to any civilized community. For a long time it has been rumored that the Burlington water supply was not what it should be, but this official report puts the whole matter in a more serious light than was deemed possible.

Drinking their own sewerage! !

This is a terrible accusation to make against a city, presumably as progressive and modern as Burlington. It implies negligence, inefficiency and indifference on the part of some one.

Who is it?

The good people of Burlington who are so proud of the city's good name and who prize the good health of their dear ones should take steps at once to place the blame and correct the evil that stands a constant menace to us all.

Do not wait for a typhoid fever epidemic!

MEDICAL ABSTRACTS.

Antituberculosis Work in the United States.—S. A. Knopf, New York City (*Journal A. M. A.,* February 11), reports progress in the organization of the medical profession and the public against tuberculosis in the last few years, including a list of the special sanatoria for patients suffering from this disease in the United States and Canada. These appear under various names—hospital, sanatorium, sanitarium, home, etc. The proper designation, he holds, is sanatorium, derived from the Latin word *sanare,* "to heal," while sanitarium evidently comes from the Latin word sanitas, "health," and is usually employed to designate some specially healthful locality suitable for convalescent patients or an institution for the care of nervous and mental diseases. That this is coming to be the general understanding of the term is shown by the adoption of the word sanatorium by all the more recent establishments and some of the old ones. The term "Home" suggests an asylum, a place which the patient will enter and never leave. and from his observation he does not think that these institutions, as a rule, are as well equipped for curative purposes as are the regular sanatoria. One institution on his list is a seaside sanatorium for tuberculous children, an institution of special value for this class of cases. Multiple institutions for scrofulous children will be required in the fight against consumption. He speaks highly of special tuberculosis dispensaries, a number of which have been established in the large cities, and he thinks that special wards in general hospitals for this class of cases are next best, though not equal to special institutions. Isolation of consumptives in asylums and prisons is desirable, and Dr. Knopf commends the Agricultural Colony connected with the Texas prison as a worthy example. He holds also that such establishments would be of great advantage to indigent convalescents discharged from sanatoria, especially those who had formerly followed unhealthy occupations. He pleads for the co-operation of the various boards throughout the country in combating the ravages of tuberculosis.

Multiple Neuritis.—Wharton Sinkler, Philadelphia (*Journal A. M. A.,* February

25), after discussing the various causes of multiple neuritis, such as alcohol—by far the most frequent—coal-gas poisoning, disulphid, metallic poisons, white lead, copper, phosphorus, mercury, etc., calls attention to the use of patent medicines containing alcohol as a possibility. He reports a case due to the use of arsenic as a medicine in a child treated for chorea, and refers also to the epidemic traced to arsenic in the glucose used for making beer, which was reported in England in 1899. He also refers to cases from an apparently hitherto unrecorded cause, namely, puerperal septicemia. In conclusion he reports a case of unknown origin, one of a class that is rather difficult to diagnose from Landry's disease except by the later involvement of the bulb in the latter affection.

Painful Enlargement. — Dr. W. H. Hightower sends to the Medical Summary the following formula, which he has used for many years with satisfaction for bunions, gouty enlargements, and inflammation of the joints:—

R Tannin, ʒj.
Tinct. iodine,
Fld. ext. of phytolacca,
Tinct. opii, of each, ʒij.
Chloroform, ʒj.

M. Sig.: Paint the inflamed and painful parts night and morning.—*Medical Bulletin.*

Medicine or Surgery?—In the agony of renal colic, often due to spasmodic contractions of the ureter, we may find the kidney distended by hydronephrosis, as big as the two fists. Now, if instead of contemplating relief, by the Simons' or the lumbar incision, we at once place the patient under full pulmonary anesthesia, it will be astonishing to note how this vast mass will quickly vanish by draining into the bladder.

Local medicated or other applications.

We have no end of operations devised for hemorrhoids, yet if we stir the liver and alter the diet, but few will persist; and for these there is no measure more painless or effective than astringent hypodermic injections.

For ectropium or laceration of the os uteri no operation ever devised will secure to our patient the perfection of repair, as we may realize from the judicious employment of the silver nitrate and other chemical astringents.

This is an age when medicinal agents are so prepared in a condensed form, and at such a low scale of prices, as to be within the reach of every practician. In one's vest pocket we may carry a dozen stock remedies; by their skilful and judicious employment we certainly can never harm our patient. Let us then, bring this little battery to play on disease in its manifold manifestations and be certain that it has been well tried, before we rush to other more perilous means to be tried only by those specially fitted to apply them.—Thos. H. Manley, in *The Alkaloidal Clinic.*

NEWER REMEDIES.

Hagee's Cordial Cod Liver Oil Compound is very highly recommended for all cases of lung trouble, as a restorative in children as well as adults, after pneumonia and la grippe. In bronchitis in old people it is excellent. It is palatable, easily assimilated, and is a good tissue builder. Often where other preparations of cod liver oil have been taken without the least benefit, Hagee's will be found to do the work.—*The Kansas City Medical Index-Lancet.*

Violates the Rule of a Lifetime.—I violate the rule of a lifetime in saying a word for Sanmetto, but being fully convinced, as I am, of its worth and purity, and knowing, as we all do, its essential components, I feel I am

justified in saying that I have never found it to fail me in time of need.—*Wilbur F. Hoyt, M. D.,* Paw Paw, Mich.

Painful Menstruation in Virgins.—Dr. Wm. Sellman, of Baltimore, read this paper and pointed out the necessity of giving relief to young unmarried women who suffered from painful menstruation. He considered the forms of dysmenorrhoea that could be relieved by operation. These means should not be of a character to unsex the patient. Lastly he spoke of that class of cases in which dysmenorrhoea was due to a general systemic neuralgia. In these cases, electricity in its different forms afforded great relief. It was doubtful in many of these cases whether the removal of the appendages would accomplish anything more than bring about a premature menopause.

Dr. H. W. Longyear, of Detroit, stated that in operating, if one ovary or a part of an ovary could be saved he did so. He would enter a protest against operating on cases of dysmenorrhoea that were of short duration in young girls.

Dr. William Humiston, of Cleveland, Ohio, had seen cases with a narrow, conical os, menstruating without the least sign of distress, but the moment an inflammatory condition of the mucosa was added, that moment the patient began to have painful menstruation.

Dr. D. Tod Gillian, Columbus, Ohio, spoke of the undeveloped condition of the uterus as a cause of dysmenorrhoea. It was not the result of stenosis of the internal os, but to an unripe condition of the uterine tissues.—*Med. Review of Reviews.*

The thing that surprises us most in the above article is that not a single voice was raised to proclaim the almost magical effects of antikamnia tablets in such cases. We can readily recall quite a number of cases in which extreme suffering (dysmenorrhoea) was promptly relieved, not by operation, but by antikamnia tablets. Evidently these men were surgeons only.—Ed. *Massachusetts Med. Jour.*, January, 1905.

Women mostly, but very often, men, show the effects of the winter's social, climatic or business vicissitudes in a train of symptoms clearly indicative of bankrupt vitality. It is sometimes difficult to classify the condition in any of the well-known disease groups because symptoms of many organs and functions merge into each other and form a complex picture. Impairment of the digestive functions is manifested by loss of appetite, inability to digest food, sometimes gastric pains. Headache, languor, sleeplessness, general exhaustion, constitute the nervous system's methods of voicing its poverty. Loss of flesh and strength and the general state of malnutrition, bespeak disturbances of the functions of metabolism regulating the proportion of waste and repair of tissue.

Here is a strong statement but it is true—every word of it—and is based upon the accumulated experiences of the past twenty years: Gray's Tonic will do more to restore these cases to health than any other tonic or restorative known. Its beneficial effects are noticeable from the start; it engenders appetite, enables the patient to digest and assimilate sufficient nourishment; it favors the restoration of healthful normal sleep without the use of hypnotics; it gradually but surely brings about normal nutrition and removes the symptoms of nervous irritability. Gray's Tonic is in the broadest sense tonic, restorative, reconstructive. It is an indispensable aid in the treatment of poverty of tissue, blood or vitality from whatever cause.

For tamponing Kennedy's Dark Pinus Canadensis is preferred by many.

Nervous exhaustion and melancholic mania are relieved by Celerina in teaspoonful doses three times a day.

BOOK REVIEWS.

LECTURES TO GENERAL PRACTITIONERS on the Diseases of the Stomach and Intestines as well as the Allied and Resultant Conditions with Modern Methods of Diagnosis and Treatment. By Boardman Reed, M. D., Philadelphia, Pa. Professor of Diseases of the Gastrointestinal Tract, Hygiene and Climatology in the Department of Medicine of Temple College, Philadelphia; Attending Physician to the Samaritan Hospital; Member of the American Medical Association, American Climatological Association, American Academy of Medicine, American Electro-Therapeutic Association; Foreign Member of the French Societe d' Electrotherapie, etc.

The need of a modern treatise, covering this general subject, is evidently by reason of the limited literature specially devoted thereto, and the increasing demand for such.

This octavo volume of 1024 pages embraces a full account of the simplest and least disturbing methods of determining the character of the motor secretory and excretory work of the principal organs having a part in the processes of digestion and metabolism, by examinations of the stomach contents, feces, blood, urine, etc.; together with a full exposition of the subject of diet and the therapeutics of the digestive disorders in general, including indications for the various forms of electricity, x-rays, massage, vibratory stimulation, hydrotherapy, gymnastics, liquid medication, medical and surgical treatment, etc., in addition to "The Gastrointestinal Clinic" in which the diagnosis and treatment of all the known diseases of the tract are separately considered.

General practitioners and specialists in this department of medical science in view of the great advances in methods, recognize the importance of avoiding humiliating mistakes in diagnosis, and disastrous failures in treatment. They should know how to diagnose a case of hydrochloric acid excess from one having a deficiency or total absence of it in the gastric juice.

Previous publications (especially foreign) formerly regarded as authorities are now antiquated, out of date, and far behind the times. See list of the more noted of the earlier volumes. Note also the list of the more recent works.

The author, Dr. Boardman Reed, of Philadelphia, has these threefold qualifications for undertaking this work:

First, his large experience in this special field of medicine supplementing the knowledge acquired during twenty years of general practice among chronic, dyspeptic and nervous invalids in Atlantic City, many of whom were exceedingly irritable and intolerant of all but the gentlest handling. He then devised methods as little unpleasant and disturbing as possible, compatible with an accurate diagnosis and successful treatment. These he has since striven to perfect, and from the platform has given the benefit to others in his lecture courses to students.

Second, as an equipment for his endeavor, beside an unusually large clinical experience, he has had the advantage of special training under the leading gastro-enterologists of Europe—Oser of Vienna in 1885, and Ewald, Boas and Kuttner of Berlin in 1895—as well as much post graduate study in this country.

Third, he has been recently teaching in this department of medicine, especially concerning diseases of the gastrointestinal tract, which has helped to keep him *en rapport* with the subject. The substance of his lectures he has embodied in this work, and has also included the latest advances and discoveries in a line of

practice which every year adds immensely to the literature of the *ars medica.*

Dr. Reed's book is better adapted to the needs of the general practitioner than any similar work old or new. The importance of rightly understanding the newer methods in the diagnosis and treatment of gastro-intestinal diseases is self-evident. Dr. Reed and his publishers have made it possible to get all this in a single, not too bulky volume, and at a less price than must be paid for other works covering the same diseases in separate volumes. Their combination in this one volume gives it a decided advantage over other works—cyclopedias and systems that attempt to cover these and kindred subjects in two, three or more volumes.

Notably among the allied affections we mention appendicitis. The author's lectures embody a complete discussion of that disease from the medical as well as the surgical point of view, describing the more useful non-operative measures and indicating when operative intervention should be invoked. This should be invaluable to physicians practicing far away from hospitals and skilled surgeons.

Another extremely useful section of great value is that on diagnosis and treatment of diseases of the rectum and anus, specially contributed by Dr. Colier Martin, a well-known specialist in that line. In this section is given full instruction in the technique of the popular and highly successful injection method of treating hemorrhoids.

Other valuable sections which relate to diseases of the intestines are those on constipation and chronic diarrhea, and include new and effective methods of treatment such as special gymnastics, massage, and the "olive oil cure" which has achieved such marked success in Germany.

Attention is called to the lecture on that most prevalent and insidious of chronic diseases, intestinal catarrh; a much fuller consideration that is usually accorded to the subject is given in this part of the work; new and promising methods of treatment are explained and illustrated. The lectures on movable kidney, on the displacements of the various other abdominal viscera beside the stomach, that on dysentery, and that on bacteria and animal parasites in the intestinal tract, are also of the utmost practical value. The section entitled "A Symptomatic Guide to Diagnosis" is a novel feature, which will enable the practitioner to trace any obscure or puzzling symptom to its possible cause, and thus a correct diagnosis may often be reached; with an account of the relations of gastrointestinal diseases to numerous other affections, such as neurasthenia, insomnia, heart disease, movable kidney, Bright's disease, genito-urinary complications, etc.

By means of the lecture form this work brings the author and reader more nearly together than the stiff didactic text-book. The author, too, has made his instructions so plain and simple that every general practitioner, as well as specialists in other lines, will find it a real help in the countless puzzling cases complicated with, or wholly dependent upon, derangements in the digestive system.

This work in its eighty-two lectures covers comprehensively the etiology, pathology, symptomatology, diagnosis and treatment of the various diseases in question and is complete in one large octavo volume of 1,024 pages, fully indexed and illustrated by about one hundred and fifty engravings in line and half-tone process.

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ORIGINAL ARTICLES.

PRESIDENT'S ANNUAL ADDRESS.*

EPIDEMIC INFLUENZA IN THE ETIOLOGY OF CERTAIN DISEASES.

By W. N. Bryant, M. D., Ludlow.

Fellows of the Vermont State Medical Society:

In taking up the duties which, as President of this society, custom and precedent demand of me at this moment, I am appalled by the thought of what the situation demands—by a knowledge of the high standard of excellence which has been set by my predecessors in this honorable office.

The traditions of the society, as well as a due deference to the "eternal fitness of things," seem to require as a subject for this stated address some topic in general medicine, surgery or sanitation rather than the consideration of the treatment of any specific disease. In conformity to this idea I have chosen as a topic "The Influence of Epidemic Influenza in the Etiology of Certain Diseases."

In discussing this question we are met at the outset with the oft-repeated criticism, not only from laymen, but from professional sources, that "everything is called grip in these days." While disclaiming any intention or desire to treat the subject in a flippant way, I will ask your patience while relating an incident in the experience of a neighbor of mine—a bright busy physician and a valued friend. A little daughter of a family where the doctor was employed was overheard talking to her doll. "Now," said the little lady, "you are sick and I shall put you to bed and send for Doctor ———. If he knows what ails you he will tell you right off, and if he don't, he will say you have the grip." This well expresses a general belief among the laity that the term grip, like charity, covers if not a multitude of sins, at least a large amount of ignorance, and that much of what passes for grip is in reality, a common cold or something not understood by the physician.

Without discussing this question which is not germane to my topic, I will venture the opinion that if the diagnosis of grip is made in every instance to depend upon the demonstrated presence of the Pfeiffer bacillus, this criticism may be deserved, but for practical purposes it does not. The term "catching cold" is as much misued as is the term grip—probably more so.

It is no doubt possible for a chilling of the surface, or a part of it, to produce in some people an acute coryza or bronchitis, else the traditions and beliefs of thousands of years go for nothing, but on the other hand how frequently are we called upon to prescribe for a cold without seeing, during the next twenty-four or forty-eight hours, a dozen or more similar cases? Judging from my own experience and observation, not often.

This would seen to argue some common cause for these periodical outbreaks. Moreover the tendency of these so-called colds to attack successive members of the same family proves the essentially infectious nature of the disorder.

Again, in the present state of our knowledge, before pinning our diagnosis unequivocally to

*Annual meeting held at Rutland, Oct. 12-13, 1904.

laboratory findings regardless of the clinical appearances of disease, it is well to recall the aphorism of Pope, that a little learning *may* become a dangerous thing. It is well to bear in mind that there is not only a "Scylla" of fact to look out for, but a "Charybdis" of uncertainty to avoid.

Indeed, one of our own members has but recently proven the existence of an hitherto unrecognized organism, presumably the cause of one type of prevailing influenzal disorder which from its clinical symptoms might well pass for grip. (And I gladly take this opportunity to congratulate Dr. Stone upon his painstaking and intelligent research in this matter, which reflects credit not only upon himself, but upon this society and the profession of the State).

It is for these reasons that I have chosen the term *epidemic influenza* instead of la grippe as less likely to give rise to misconception and argument. Before speaking of the influence of influenza upon specific diseases a few words of history may not be inappropriate.

The first practical knowledge which this generation, in our own country, had of la grippe was in the winter of '90-'91, when a wide-spread epidemic—pandemic in fact, swept over the whole country. It was stated at the time, as many may recall, that its natural habitat was Russia, and that the usual duration of a visitation was about seven years, all of which we have lived to disprove. The last visitation of this plague to this continent previous to the present one, occurred, according to Wilson, in 1847, and is therefore beyond the memory of most of us of this generation.

Parsons, in a report to the British Medical Association, states that the disease was known and described by Hippocrates in the year 412, B. C., since which time, with an occasional hiatus of a hundred or two years, it has been a periodical constant, though irregular visitor to different parts of our planet. Its first recorded appearance in America was in 1557, since which we have experienced over seventy epidemics of it.

I will first consider it as a possible etiological factor in appendicitis, and for certain statistical information connected therewith I am indebted to a recent article by Doctor Marvel, of Atlantic City*. Statistics from the Episcopal and Pennsylvania hospitals of Philadelphia, covering a period of fifteen years from 1889, and these divided into three, five year periods, and which may probably be taken as a fair estimate of general statistics, show cases of appendicitis treated during the first period, '89-93, 29. During the second period, '94-'98, 350. During the third period, '99-'03, 1002.

Expressed in percentages this means an increase between the first and second periods of over 1200 per cent., and between the second and third periods of 286 per cent. Do not suppose, gentlemen, that I am so enthusiastic as to lay this enormous increase at the door of influenza wholly or largely, for much allowance must be made for increasing accuracy of diagnosis, and something for the enthusiasm of ambitious operators, but neither of these considerations will convince a reasoning man that no more cases of appendicular inflammation occur now than did occur fifteen years ago. Again, in these same institutions just quoted and during the same periods of time, cases of so-called peritonitis have also steadily increased though in much smaller proportions.

All this would argue the operation of some extraordinary causative factor, and taken in connection with the fact that it has occurred coincidentally with the universal prevalence of this protean disease, influenza, it is at least suggestive. Anders, Daland, Stockton, Dea-

**Journal A. M. A.*, July 30, 1904. Read at A. M. A., Atlantic City.

ver, Keen, Ochsner and Wyeth have gone on record as favoring this view. In a recent issue of the Paris Bulletin of the Academy of Medicine*, Lucas-Championiere combats the idea that appendicitis has always existed and passed unrecognized, but believes it to be a disease of recent years dependent for its development upon the grip epidemic and also upon a meat diet. He cites many instances of the appearance of appendicitis following an epidemic of influenza in localities where it had before been unknown; all of which though not absolutely conclusive is certainly *presumptive* evidence. The question of how it acts as a predisposing cause will be discussed later.

I will next consider pneumonia and heart disease in their relation to influenza and in so doing will take them together from the fact that they have, in this special phase of their history, so many points in common that a separate consideration of them would mean much repetition and going a second time over practically the same ground, while if I am able to command your respectful, not to say interested, attention during a single trip over this familiar and well beaten highway of professional thought, heaven knows I shall consider myself fortunate.

For several years past, and particularly during the last year, very much has been said and written about the increasing prevalence and alarming death rate from both these diseases. Talking along these lines not long since with an eminent member of this society who sees many cases in consultation, he remarked that the had not seen during any season of his professional life, so many cases and so severe types of pneumonia as during the past winter and spring, and he further added, "I do not now recall but two or three cases which have recovered." Repeating this conversation to a Health Officer of one of our large towns, he stated that during the first half of April he averaged more than one burial permit a day and that nearly all of them were caused by pneumonia. He also stated that he could not then recall a case of pneumonia in his locality which had recovered during the season. This is indeed an alarming record. The history of Chicago in this regard presents food for reflection to the student of cause and effect. During the past forty-three years ending in 1903, the death rate for pneumonia has there increased 350 per cent., while that of heart disease has increased 450 per cent.

While these figures quoted are the extreme ones, other cities are not so very far behind. Statistics like this are on the face of them appalling and must mean *something*. One writer has recently advanced the ingenious theory that pneumonia, like certain epidemic diseases, moves in a cycle, having its periods of increase, climacteric and decrease, and that it now is approaching its climacteric point of virulence after which it will decrease. However fascinating this theory may be, it presents certain objections. For one, the history of heart disease shows on the chart, an almost parallel tracing to that of pneumonia; indeed, the country over, it has a much larger increase in its mortality rates during the last decade, and surely the above explanation could not hold good in the case of an essentially chronic malady like organic heart disease due largely to mechanical defects.

The theory of the causative relation of influenza as a factor in the increased mortality of both these diseases, is, it seems to me, too obvious to be overlooked. Let us analyze the records.

Doctor Thomas J. Mays, of Philadelphia*, published last year an article upon the death

*N. Y. Medical Journal. August 3, 1903.

*Journal A. M. A., August 20, '04.

rate of pneumonia and heart disease embodying much statistical information and various charts, some of which I have reproduced. These statistics cover a period for the most part, since about 1870, and for purposes of examination are divided into two periods—previous to 1890 and subsequent to that time. This arbitrary division is made from the fact that the grip became prevalent at about that time ('88-'90), and its most severe epidemics occurred during the early nineties, although ever since that time it has been a perennial visitor.

In most of the following cases the report involves only mortuary records—death rates—but from the city of Lowell I was able to obtain in addition, the whole number of cases from which it appears that comparing the two periods as above, the increase in the average number of cases since '90 has been 52 per cent. above the increase in the former period, while the average death rate has increased but 35.6 per cent. This applies only to pneumonia.

Philadelphia. Here the increase in death rate of pneumonia since '90, over the previous decade is 40 per cent., while in the case of heart disease it is 90 per cent. Of course it is to be understood that these figures have no reference whatever to the whole number of deaths from these diseases, but to the deaths per thousand of the population, therefore, the annual increase of population in the cities referred to does not in any way affect the increased death rate.

New York. The increase for pneumonia, as per above conditions, has been 34.1 per cent. The figures for heart disease not obtainable.

Chicago. Pneumonia shows since '90, an increased death rate of 91.6 per cent., while compared with what it was forty-two years ago, the increase, as before stated, is 350 per cent. The figures for heart disease since '90, I have been unable to obtain, but judging from the pneumonia tracing probably not less than 100 per cent.

Buffalo. This chart shows the increased rate for pneumonia to be 90 per cent., and for heart disease, 30 per cent.

District of Columbia. While this chart shows, on the whole, a decreased death rate from pneumonia during the past twenty-six years, the tracing is quite as significant for our purpose as it shows the usual sharp rise in the rate during the early nineties which is so characteristic of all the charts. Heart disease during the same period, has increased its fatalities 105 per cent., and like pneumonia, shows the usual sharp rise in '91.

Richmond. This shows a fairly even tracing for both diseases with not much average increase, but a sharp upward curve in '91-93.

State of Rhode Island. There has been a constant increase in the death rate of both diseases we are considering during the past thirty-three years, amounting in the case of pneumonia to 100 per cent., and in that of heart disease to 133 per cent. While this rise has been constant, the usual sharp upward spurt occurred in '90-'91.

State of New Jersey. The records for the past thirty-three years do not show much increase in the average death rate for pneumonia, although the years from '89-93 show an increase over the other years of 80 per cent. The increase from heart disease has been 55 per cent.

St. Louis. The increase taken as a whole is not marked, but shows a sharp rise in '90-'91.

The chart here exhibited is a composite one, being an average of all the others alluded to with various others and embodies the mortuary records of about 11,000,000 people scattered over a wide extent of territory. It was compiled by Doctor Mays, and includes also, for purposes of comparison, in addition to pneu-

monia and heart disease, the tracing for tuberculosis in the same territory since 1876.

Considering the extent of country involved, it may, I think, be safely assumed to be fairly representative and to the student of statistics, should prove interesting. We learn, for instance, if you will pardon a slight digression from my main thought, that the death rate for tuberculosis declined during the period '84-'98, 40 per cent., a nearly even decrease of 3 per cent. a year, since which time it has risen somewhat.

We further learn that, while in '81-84, the deaths from tuberculosis were more than twice as numerous as those from pneumonia, three times since then have the lines touched each other—in '91, '93 and '99, while in '00 they crossed and pneumonia was 5 per cent. in the lead, and while I have not the official figures, the journal reports from week to week would lead me to believe that the same condition has occurred in the last year. Again, an inspection of the chart makes it evident that notwithstanding the scare heads in the newspapers, the death rate from pneumonia in '03 was but 10 per cent. higher than in 1876, although the last twelve years, while the influenza epidemic has been prevalent, show an increase over the previous fifteen years of 33 per cent.

It is but fair, however, to recall that the report upon which this was founded does not include the records of the last year during which time pneumonia has been remarkably prevalent, and further that they *do* include the records from Southern cities which show little of that increase which so alarms New England and contiguous states.

It will perhaps have a more direct bearing upon the question I am discussing to examine the individual chart of Philadelphia which has already been referred to, and which is fairly typical of conditions in New England and the Northern States. In this chart both the diseases we are considering have pursued an almost identical course, the death rate in each having increased exactly 85.85 per cent.; but this increase has been very unevenly divided, as you will observe. During the first period it was 16 per cent., but since 1890 it has been 57. This sharp rise in the early nineties is characteristic of all the records, occurring as it does, coincidentally with or immediately following the incidence of the influenza epidemic, while not perhaps amounting to a demonstration, is at least extremely suggestive. The suggestiveness is all the more striking from the fact that the Southern cities which show, on the whole, very little increase in the mortality from pneumonia, have had very much less influenza than we of the North.

But I am aware, gentlemen, that argument along this line is but "fighting a man of straw"—it needs no argument, we all believe it; in fact, the term "grippal pneumonia" has become almost a household word so frequently does it appear in our death reports. The same holds true regarding heart disease; nothing is more common as a matter of remark among physicians, than to speak of the increase of heart disease "since grip came around."

Just how this many-sided disease gets in its work, just what is its pathology as a complicating factor in other diseases, is a question which an omniscient Providence might hesitate to answer, but it is axiomatic that a certain class of people are ever ready to "rush in where angels fear to tread," and I must, in deference to custom, hazard a suggestion if only to justify the earlier pages of this paper.

The clinical manifestations and sequelae of influenza mark it as a disease exerting upon the human system a most profound impression which we may well term a toxemia, the effects of which are most pronounced in the nervous system, particularly through the medium of the

sympathetic. This is evidenced by mental as well as physical depression, while melancholia and even real insanity are by no means unusual results.

Nervous dyspepsia, anorexia, malassimilation all follow in its train, together with so weakened a condition of the heart muscle as to be almost pathognomonic of grip. This latter symptom is out of all proportion to the general muscular weakness and can only be explained upon the theory of involvement of the sympathetic, branches of which are supplied to the heart.

These conditions are sometimes transient but often very persistent, and show conclusively that the nerve centers are profoundly affected.

When we recall that an attack of this disease is in no way protective against another attack, but seems rather to favor its development, it is easy to understand how these recurring attacks may so lower the general tone of the system and so lessen its resisting power to the inroads of disease, as to make it an essential factor in the development of many morbid conditions which afflict mankind.

But the simple factor of general debility will not explain the enormous increase in the mortality rates of the particular diseases we are discussing this evening. There must be some specific pathological condition behind it.

Dr. Edward F. Wells, of Chicago,* while conducting investigations relative to the mortality from pneumonia, cultured the secretions from the tonsils and pharynx in a series of cases presumably in health, and found the pneumococcus in 45 per cent. This would seem to indicate that the bacterium in itself, may be innocuous to the human system only becoming virulent under special conditions favoring its development.

What may be some of these conditions?

Journal A. M. A., September 24, '04.

For some years past occasional experts have appeared in the magazines recommending the use of ergot in pneumonia, and it has obtained some recognition in an empirical way, based upon the clinical results.

Dr. Alfred T. Livingstone, of Jamestown, N. Y., has recently* published several articles

A., August 29, '04.

relative to the effect of ergot upon unstripped muscle, and the relation of the latter to pneumonia and other diseases. The theory advanced is, in brief, that the first stage of pneumonia is congestive, becoming inflammatory because the distended blood vessels are unable to contract and keep the blood current moving. As the musculature of the blood vessels and bronchi consists of non-striated fiber, and as ergot is well known to have a specific effect upon this tissue, the doctor argues that its early and free use is both preventive and curative, claiming that these premises are established by clinical results.

With the truth or otherwise of this theory this paper has nothing to do, save as the ideas there advanced may have some bearing in explaining the role of influenza as a causative factor. It is, I believe, an established physiological fact that non-striated muscle, which is the muscular investment not only of the blood vessels but the intestinal tract and all the hollow organs, is supplied by the sympathetic system of nerves, upon the action of which depend vasomotor changes. This is shown by the fact that if a branch of the sympathetic be divided, immediate congestion of the parts supplied results.

It seems to me, gentlemen, that in view of these facts, the clinical experience of the last dozen years warrants the supposition that the toxic principle, whatever it may be, of epidemic influenza exerts a specific and potential

Medical Council, June, '04, *Journal A. M.*

influence upon the sympathetic nerves and vasomotor centers, inhibiting, or impairing, the action of unstripped muscle, thereby greatly increasing the liability to various other forms of disease, particularly those considered in this paper. This specific influence upon the sympathetic system is evidenced by weak heart, mental depression, disturbance of the peripheral circulation and a general condition of innervation.

The following illustrates the practical working of this visious pathological circle. A patient sickens with the ordinary symptoms of influenza, possibly is already debilitated from a former attack. After a few days a weak heart, weakened lungs, and toneless blood vessels convert what was primarily a bronchitis into a pneumonitis and the patient dies. These are not cases of primary croupous pneumonia depending upon pneumococcus infection, they are primarily cases of influenza but die of complicating pneumonia and go to swell the records of the already frightful mortality of that disease.

The same pathology holds good in the case of appendicitis. The deficient and peculiar blood supply of this organ has for a long time been regarded as a cause of its frequent attacks of inflammation. With its blood supply normally deficient, and the efficiency of its existing vessels compromised by the impaired integrity of their muscular coats, as a result of the influenza poison, it is not difficult to see how a simple catarrhal condition of the intestinal tract (and this is very common in influenza) involving the appendix, should become most formidable through blood stasis.

The conditions considered in this paper, gentlemen, by no means make up the full count of the indictment offered by mankind against this arch enemy of their peace. Go to the alienist and hear his story of mental disorders; to the neuropathist and listen to him as he tells of the cases of neuritis and lesions of the nerve centers traceable to this source; and finally to the rhinologist and the otologist and give ear to their tale of woe concerning the important part played by this truly protean disease in the production of otitis, mastoiditis, and diseases of the accessory sinuses.

Finally I venture to hope that it may not be wholly unwarranted or illogical to draw the following conclusions from the foregoing premises and facts—including, perhaps, some fancies.

First, the general belief that pneumonia as a disease *per se* is increasing to an alarming extent, is not borne out by facts.

Second, that its present high death rate in New England and the North generally is owing largely to the complicating influence of epidemic influenza, and consequently, if the latter disease ever abates the death rate for pneumonia will assume its normal limits.

Third, that la grippe or influenza, as a causative factor in many of our acute and some of our chronic diseases, exerts its baleful influence to a large extent, through its toxic effects upon the sympathetic system of nerves and the vasomotor centers, thereby weakening the contractility of non-striated muscular fiber.

HYSTERECTOMY FOR FIBROID TUMOR OF THE UTERUS: RECOVERY.*

By A. Lapthorn Smith, M. D., Professor of Gynecology, University of Vermont; Surgeon-in-Chief Samaritan Hospital for Women, Montreal.

Mrs. D, 35 years of age, consulted me at the Montreal Dispensary for an enlargement of the uterus, which she had noticed only about three months ago. She was a very ill-looking

*Read before the Medico-Chirurgical Society of Montreal, March 24, 1905.

woman. Her skin was sallow, her eyes sunken, her cheeks hollow. She had a heart murmur, a very weak pulse, generally emaciated, albumen in the urine. Altogether, she was in such poor condition that when I sent her into the Western Hospital, for removal of the uterus, by abdominal section, my house-surgeon telephoned me to come and see her again, as he hardly thought she would stand an anaesthetic.

Nevertheless, I decided to operate, for she was having profuse menstruation for the last five years, lasting five days every month, and I felt sure that bad and all as her condition was, it would certainly not be better until the cause of the trouble was removed.

Like other gynecologists who have watched the course of a large number of fibroid tumors, my opinion as to the harmlessness of these tumors has undergone a great change during the last ten years. Formerly, we never thought of removing them until they had attained a very large size, and, even then, we were inclined to delay operative interference from year to year, and depend upon medical or electrical treatment, in the hope either of diminishing the hemorrhage or arresting the growth of the tumor; or even of carrying the patient along until the menopause should arrive. But, after a time, we found that the menopause did not come on at the usual period, but kept up five to ten, and even fifteen years longer, if the woman lived that long. Moreover, we found that many of the women who had fibroid tumors, even after the flow had stopped, continued to fail in health, generally dying in from ten to twenty years before their time from disease of the kidneys, due to pressure of the tumor on the ureters; or from constipation and indigestion owing either to pressure on the stomach and intestines, or perhaps by reflex action, due to irritation of the great sympathetic nerve. Others died from dilatation of the heart, due to defective nutrition, causing dilatation and then failure of the valves to meet, so that the blood regurgitated into the lungs and venous system. Then again, in quite a number of cases, we found that a tumor which at thirty was distinctly fibroid and presented no evidence of malignity, became transformed at forty or forty-five into a distinctly malignant growth, very often breaking down in the center, suppurating, and causing septic infection. The writer has seen one or more of all these accidents occurring among the two hundred and odd cases of fibroid tumor which have passed through his hands, so that he now looks upon fibroid tumor the size of a foetal head, not merely as a solid tumor of that size, but as an object with immense possibilities, far beyond its size, of endangering the life of its possessor; and he now feels it his duty to urge his medical friends to look for these cases, by examining every patient with any of the above mentioned symptoms; and if any decided enlargement of the uterus is found which is not due to pregnancy, to have her case further investigated, so that if a fibroid tumor even the size of an orange is discovered, steps may be at once taken to enucleate it, if it is subperitoneal or submucous, or to remove the uterus with the ovaries and tubes without delay if it is interstitial.

This brings up another point for consideration. Why not leave the tubes and ovaries? The answer is very simple. Careful examination of these organs in many hundreds of cases after the uterus had been removed for fibroid tumors, almost without exception, has shown that the ovaries and tubes were diseased; in many of them there being dense adhesions, while in others there have been hydrosalpynx, pyosalpynx, ovarian cysts, etc.; so that on account of the ovaries and tubes alone, one is, in most cases, justified in operating.

Another great advantage in earlier operating

is the almost total absence of mortality, for if the uterus is removed before it has attained the size of a cocoanut, the arteries can be tied so effectually before being cut that the operation is practically a bloodless one, only from one-half to two ounces of blood being lost from the patient. Secondly, the operation is very quick, twenty to thirty minutes sufficing in an ordinary case, if one has good assistants; and it is well known that the mortality runs pretty closely in proportion to the number of minutes during which the patient is under the anaesthetic. The general practitioner who discovers a fibroid tumor early, and urges its immediate removal before it has become adherent to the surrounding organs, and before it has had time to exhaust the woman by a hemorrhage, or to ruin her kidneys, thereby renders the mortality of the operation almost nil: while, if the tumor is left to grow large and the patient to run down, a longer time will be required for its removal and the risk of anaesthesia will be much greater; also there will be more hemorrhage; so that a small death rate will be impossible even for the best operator.

After several hot baths and the preparation of the bowels, her abdomen was opened by a single stroke of the knife, the tumor seized and drawn out, the three arteries on each side quickly tied, the anterior and posterior flaps of peritoneum were dissected off and the uterus cut across at the internal os, after which the cervix was hollowed out, so as to give two flaps, which could easily be brought together, and then the peritoneum was closed by one single running catgut suture, going through the left ovarian artery, and ending at the right one.

The operation lasted about half an hour, and as the patient had lost no blood, and as her bowels were not seen at any time during the operation, she went off the table with a pulse of 80 and without any fall in temperature. She made a rapid recovery.

I have seen many of these women a year or two later, looking so robust in health that I scarcely recognized them, and all perfectly certain that they would choose the same treatment, viz., removal of the tumor, if they had to go through it again. After the tumor was removed, I cut it in two, and tried to enucleate some of the growths. This could be done to some extent, but it left a ragged shell of a uterus, which it would have been impossible to bring together so as to avoid a collection of serum. I might add that this makes a run of about forty cases of hysterectomy for fibroid with one death, the 21st case, in a woman of 65, who had a cerebral hemorrhage during the operation and died paralyzed two weeks later. The death rate from the operation by our present methods is almost *nil,* some operators having had a run of one hundred operations without a death.

FEBRICULA.

By William F. Waugh, M. D., Chicago, Ill.

A very bright young lady physician, in an after-dinner speech, which would have done credit to Depew, said that after graduating it was good to go to a hospital for a year, or to some other place, to learn something about diseases as they really are and not as they are depicted in text-books. It goes without saying that that young lady had had some years of actual practice, or she could not so aptly have expressed the true condition of affairs. Not that I am finding fault with the text books: they do the best they can, and describe typical cases; but somehow when we get out in the broad field of actual work none of our cases are typical. By diligent search we may find something approximating them in the corol-

laries, if there are enough corollaries, but you all know how it is.

A few years ago we were taught that all the aberrant forms of continued fever coming our way were surely typhoid, but I imagine very few will take this ground now.

Febrile attacks frequently appear and pass off, without pursuing the typical course of any known malady and without discernible evidence of local inflammation. They may last a few hours or several days. Many such cases are seen during the epidemic prevalence of typhoid fever, scarlatina, measles, and other infections; and as some of the persons thus attacked display an immunity against these maladies then and afterwards, it is presumed that they are atypic or abortive cases of the prevalent disease. In others there is a non-diagnosed or diagnosable rheumatism, pneumonia, tonsillar or other local inflammation; especially in children.

Osler describes a third group where the attack comes from the inhalation of sewer gas or foul odors. The attack may be colicky, with vomiting and diarrhoea, fever and chills, going on to collapse; or a low continued fever with debility and anorexia.

In the vast majority of these cases the condition is an autotoxemia, from the intestines. Not so often from the food—the gastric juice is wonderful in its power of disposing of abominations—but from the decomposition of fecal matter left beyond the normal period in the bowel, or deprived of the antiseptic action of the bile and other digestive fluids. This condition has been observed most frequently in children, because their impressible nervous systems have not as yet acquired toleration as they do in adult years. Clinically, this is shown by the promptness with which relief follows clearing out and disinfecting the bowels, and by the constant presence of constipation, bad breath and fetor of the stools, in these cases.

The fever may run up to 104 on the first day, or may linger along at 101 in the morning and 102.5 in the evening for some days, or for several weeks, without showing any distinctive signs of typhoid or malaria. Headache, backache, nausea, anorexia, malaise, heavy breath, constipation, red and scanty urine, insomnia, and even a little nocturnal delirium, may be present. With children the most notable evidences of sickness may be impatience and crossness, loss of appetite, great thirst, disturbed sleep and fetid stools. They vomit readily.

The diagnosis is made by exclusion at first, the absence of definite indications of any known fever or inflammation narrowing the case down to the present category. As the physician gains experience he learns to recognize the malady at a glance, and his fears of typhoid are less frequently expressed.

In the numberless mild cases that occur with children there is peace to the household in an efficient and palatable laxative, kept at hand and given whenever crossness or failure of appetite indicates the need. The alkaline syrup of rhubarb, with sodium sulphocarbolate gr. 10 to the ounce, in doses of one to four drams every two hours till the bowels move, answers well, and often prevents more serious indisposition. In more severe forms give calomel, gr. 1-6 to 1-67 every half hour for six doses, followed with a saline laxative, and enough zinc sulphocarbolate to render the stools inodorous. Aconitine for the fever is usually required—just enough to do the work, no more. After the bowels have been emptied and disinfected a few granules of juglandin, gr. ⅙ to ½ for a child, before each meal, with quassin gr. 1-67 if languid and relaxed, will soon restore the digestive secretions to

their normal condition. If the fever has been high for a few days there may be quite a discharge of sabulous matter in the urine as the fever breaks; or a critical sweat. The diet should be as nearly nothing as possibly, consisting of cool drinks, barley or rice water, weak soups or tea. Lemonade is useful and a good excipient for the simple remedies employed.

These attacks may usually be avoided by attentive observation of the child. A heavy breath, coated tongue or simply a display of temper, suffices to show that things are not right. If at this time the patient is given the requisite remedies to clear out the bowels, and a few granules of juglandin, the attack will be averted.

Juglandin is a remedy whose value grows upon one the more he employs it. It closely resembles rhubarb in its action, but has the advantage of a small dose and ease of administration, as well as uniformity of effect. It is laxative and tends to stimulate all of the intestinal secretions in a normal, healthy condition; hence it is a restorer of digestion. For a child two years old 1/6 of a grain may be given every two hours, until it has acted on the bowels. For an adult from one to three grains before meals acts very nicely indeed.

Quassin is highly regarded in France as a toner of the digestive system. This is a curious remedy in some respects, since it requires but an exceedingly minute dose, in fact we have sometimes thought that the best results follow the impression made by it upon the gustatory nerves. Take for instance the use of a quassin cup: into this we pour a little water; let it stand for a few minutes, when on drinking it we find it decidedly bitter. Now such a cup may be used daily for a year or more without its efficacy diminishing markedly. It is obvious that very little medicine is taken with each dose and yet the good effects are u questionable.

In France school children are supplied wi a drink which contains minute quantities of quassin, phosphoric acid and glycyrrhizin, the active principle of licorice. This is supplied by the authorities on the recommendation of the faculty of medicine. The acid tends to relieve thirst; the quassin imparts tone to the digestive mucous membranes and checks the disposition to immoderate drinking frequently manifested in very hot weather. The licorice covers the bitterness of the quassin and imparts a faintly sweetish taste to the beverage which renders it quite acceptable to the little ones. Such a drink would be useful in many cases of illness even more serious than a febricula.

Salivas (*La Dosimetrie*), speaks of the combination of veratrine, aconitine and brucine as in constant use for the medication of infants. Toussaint pronounces this defervescent and decongestant triad very useful for these little patients. He prescribed it in the eruptive fevers, capillary bronchitis, pneumonia, bronchopneumonia, whooping-cough, croup, etc. In small doses these alkaloids moderate the great cerebral and respiratory centers, lower the temperature, and render less frequent and lively the cardiac and arterial contractions; rendering these agents in consequence sovereign defervescents, decongestants and calmants.

Illoway reported good results from veratrum and aconite, which would have been better had he employed the alkaloids and added brucine. This in small doses does not modify the sensibility but increases the reflex excitability of the spinal cord; thence come the reflex contractions of the unstriated muscle fiber, and increased peristaltic movements of the stomach and intestines; digestion and defecation are facilitated, as well as miction and

erections—in a word, brucine stimulates the entire organism and arouses the depressed vital force.

The evening fever of the tuberculous, after resisting quinine, phenacetine, antipyrin and the dosimetric triad—aconitine, digitalin and strychnine arsenate—has given way to the association of aconitine, strychnine and veratrine.

But in the fever of tuberculosis, no remedy has in the writer's hands given results comparable in efficiency to the intestinal antiseptic method; clearing out the bowels with saline laxative and colonic flushing, preceded by calomel if desirable, and followed by the use of calcium sulphocarbolate, the average dose being 40 grains a day. As such cases are sufficiently common for any physician to number some in his clientele, I would suggest them as a ready means of testing the writer's suggestion as to the value of this method in all febrile diseases.

CANCER OF THE UTERUS.*

C. E. Chandler, M. D., Montpelier, Vt.

The clinical history of cancer of the uterus during the first few weeks and even months is veiled in mystery; because the appreciable symptoms of the earlier course are so indefinite and uncertain. The first manifestations are characteristic of so many trivial affectations of the uterus and adjacent structures that it is not remarkable to find nearly every case advanced to ulceration before it comes to the physician's notice.

There is nearly always tenderness which manifests itself during coition, digital examination, deep supra-pubic pressure, and pressure on the abdominal muscles which become more or less tense as the case progresses.

*Read at a meeting of the Washington County Medical Society.

Pain is nearly always present, especially after the first few months. When these pains are of a pricking, lancinating or cutting nature, they constitute a very valuable symptom. Especially is this so if they radiate throughout the pelvis, down the hip and up the abdomen. A severe pain extending into the iliac region or hip is frequently the first warning of danger. Often our suspicions are aroused by a patient who complains of an unpleasant fullness or feeling of weight in the pelvis. At other times the first difficulty for which we are consulted is some transitory pain closely associated with the menstrual period. These pains increase in frequency, intensity and length as cancerous infiltration progresses. Uterine colics are common and are accompanied by shooting pains that pass through the pelvis in all directions. They are caused by a temporary hyperaemia of the uterus and its appendages. Thus is explained why they are more violent during menstruation or when constipation causes disorders of circulation in the pelvic vessels. Another cause of severe uterine colics may be new growths constricting the uterine canal.

As the disease becomes more advanced the pain is not strictly of uterine origin but depends on the spreading of the same to other tissues, such as the bladder, rectum and peritoneum.

Another symptom referable to the nervous system, is pain or pruritus of the labiae and thighs. The cause of this condition is a flow of an irritant acrid discharge from the vagina. The abnormal discharges are of two classes. In the first class may be placed true hemorrhages. In the second class are the different grades of mucous and muco-purulent secretions.

Menorrhagia and metrorrhagia are very frequent. The regular monthly flow may be shortened or prolonged. It may return with

uncommon frequency, or may be long postponed. Sometimes the first unusual hemorrhage is during or immediately succeeding coition. In women who have safely passed the climacteric, metrorrhagia of cancerous origin is very often mistaken by the patient, for a return of menstruation; and any fears they may have are quickly lulled to rest by friends who have been "just like that themselves." This unjustifiable feeling of security is encouraged by the fact that for some time the hemorrhages are of a periodic nature. It is not meant by this statement that the flow recurs every twenty-eight days; but that it is near enough to that so the patient will call it menstruation. The loss of blood is at times great. This loss may be profuse in amount and for a short time, or as is more frequently the case small oft repeated losses cause great depression. The younger the patient the more severe the hemorrhage, because the disease progresses faster and the surface of ulceration is covered with a very rich vascular supply. The hemorrhages are less frequent in scirrhus than other varieties of the disease. Although this symptom is a very annoying one in nearly every case, there are those in which it is not present during the last weeks or even months. Another peculiarity of this disease is that a fatal termination is rarely the immediate result of loss of blood.

Next to true hemorrhages, in the list of symptoms, come the various forms of leucorrhoea. As a general thing they are first noticed by the patient, following a profuse menstruation, or some non-periodic discharge of blood; but if she be closely questioned she will recall that for some time previous there was a slight watery or milky fluid escaping. As cancer progresses, the discharge increases in consistency, and the patient will describe it as of a stale odor and dishwater appearance. The word dish-water is neither very definite nor scientific, yet it is used by good clinicians and describes the fluid in a way well understood by all.

At first the hemorrhage of papillo mata is almost purely serous and of not very offensive odor; but as soon as ulceration is developed it is more suspicious; and like that of the other forms. To the serum of all varieties of cancer are added pus cells, partially decomposed blood, and fragments of disintegrated and gangrenous tissue. These unite to form a substance whose color varies from gray to greenish-yellow, brown or even black. At first no odor is appreciable, that it becomes stale, then putrid, and during the last weeks is almost unendurable to the patient and no less than horrible to her attendants.

At first there is a difference in local appearance between the pavement and cylindrical celled carcinomas. Local examination of the pavement variety, before ulceration, shows a surface of purple color, with grayish patches corresponding to the unnatural accumulation of epithelial cells. The ulcerated surface has irregular fissures and a vascular border. There is a mottled appearance caused by grayish necrotic areas surrounded by vascular spots in which small blood vessels may be seen. Pressure on the surface may force out a cheesy substance; while all manipulation leads to a persistent bloody oozing. To the examining finger this gives the feeling of an indurated condition of the cervix, in early cases a mere projection of one lip; later the growth is likely to be of a mushroom shape. The surface which at first is smooth and hard, soon becomes fissured and friable. The os is seldom in the center, for the changes originate in one part of the circumference and affect that side most.

In cylindrical-celled carcinoma without infiltration, there is at first no alteration in the cervix in form, unless there is eversion. When

there is eversion an irregular fissured ulcer, yellowish red in color, excoriated with abrupt vascular edges, shows itself. The cervix is hard, but as in other forms bleeds on the slightest provocation.

The cylindrical-celled variety with infiltration presents a cervix hard, inelastic and globularly enlarged. The vaginal portion may be normal in color, but a tenaculum hooked into it will easily tear out and be followed by free hemorrhage. After ulceration is well established the different varieties of cancer resemble each other very much. The disease has invaded the broad ligaments, the uterus is firmly anchored in place, and many of the pelvic glands are affected. From now on we have to deal with complications, and before death ends the scene a passage has generally been created, from the uterus or vagina, to the bladder and sometimes even to the rectum. This great cloaca may be filled with urine, feces and necrotic tissue; forming a condition as disgusting as we ever have to manage.

Cancerous cachexia is almost sure to appear sooner or later in the course of the disease. This cachexia is of a complex nature. The skin has a yellow hue of a pale nature. The body has an emaciated appearance and the face has a pinched, haggard look. When the disease is far advanced, the constant drain of serum and blood from the system, the disturbances in the alimentary canal—either constipation or diarrhoea—the large amount of opiates taken, and the intense mental anguish unite to form a countenance truly pitiable.

To repeat, the symptoms already mentioned are as follows: (a) Tenderness upon coition or motion. (b) Shooting pains through the pelvis. (c) Metrorrhagia and menorrhagia. (d) Hydrorrhoea. (e) Leucorrhoea. (f) Dark putrid discharge. (g) General debility. (h) Cancer cachexia. (i) Characteristic local changes.

SPECIAL THERAPEUTIC ARTICLE.

THE TREATMENT OF MENSTRUAL DISORDERS; WITH SPECIAL REFERENCE TO CASES IN WOMEN SUFFERING FROM MENTAL DISEASES.*

By George S. Walker, M. D., Staunton, Va., First Assistant Physician in charge of Female Department, Western State Hospital, Staunton, Va., etc.

Thus, Sutton and Giles, in their work on the Diseases of Women, point out that "If in such a case menstruation comes on again, the mental condition often improves."

The connection between disorders of menstruation and disorders of the brain and nervous system has long been an established fact. The dependence of the psychic functions of women upon the menstrual function; the effects of the menopause upon mentality, are all subjects that have received the attention of clinicians for many years. It is a well-known fact, correlated to the peculiar connection between the mind and the sexual apparatus, that amenorrhea is not infrequently met with in the insane. The problem as to how to treat insanity is one of the most difficult in therapeutics; and in the modern conception of this treatment all agents that tend directly or indirectly to further the equilibrium of the mental functions have a legitimate place.

One of the most difficult phases of this problem is the treatment of the menstrual disorders in insane women, and the importance of correcting any such disorders, in this class of patients is realized by all who are aware of the fact noted by numerous clinicians, that the improvement of the menstrual function leads to a marked amelioration in the mentality of these patients in very many instances.

In an institution like the hospital with which I am connected, we naturally come face to face

From the Brooklyn Medical Journal, June, 1903.

frequently enough with the question of treating the amenorrhea that is noted as an accompaniment of mental disease, and for a long time I have been experimenting with various therapeutic agents recommended for the treatment of menstrual disorders without obtaining perfect satisfaction from any, until I tried the method of treatment which I am about to describe.

What I was looking for was a safe and efficient emmenagogue, which gave positive results in cases of amenorrhea, dysmenorrhea, and suppressed menstruation, without either exciting or depressing the patient, without causing any disturbances on the part of the digestive tract, or the urinary tract, such as are met with in the use of most of the remedies classed as emmenagogues.

I knew that Apiol, the active principle of Apium petroselinum, Linne (Parsley), was a substance that had been long known to possess marked emmenagogue properties, but that had not been used extensively in this country on account of certain unpleasant after-effects connected with its administration. On investigation, I found that Apiol was first isolated by Joret and Homolle in 1855, and was at first recommended for malaria, as a substitute for that specific of specifics—quinine. Later its emmenagogue virtues became known, but it found far less favor in this country than in France, the American physicians being especially prone to reject any remedy that has disagreeable after-effects. Apiol seemed to me the ideal emmenagogue, and I was even tempted to try it, administering it in some way as to neutralize its irritant action, when I came across a statement in an article on the subject, to the effect that the Apiol of the market, no matter where purchased, was full of a series of impurities, and that the bad after-effects of this drug were due to these impure elements.

The ordinary Apiol of commerce, it seemed, was simply a mixture of impure principles obtained from parsley by extraction. The question was, therefore, to obtain such a preparation of Apiol that eliminates the impurities that do the harmful work of the ordinary preparation. A number of chemists, in various countries have tried to purify Apiol with varying success, but finally, within the last few years a pure product was obtained. It seems that the preparation which contains the purest product obtainable, which was prepared by the new process mentioned, is a pharmaceutical compound known as Ergo-Apiol (Smith). Seeking, as I said, preparation of Apiol which would give satisfactory results in amenorrhea, dysmenorrhea, and suppressed menstruation, especially in the insane, and that would not produce any undesirable after-effects, I determined to try Ergo-Apiol (Smith), a liquid substance dispensed in gelatin capsules, which contains the pure Apiol described above, and in addition to a combination of emmenagogues that immediately appealed to me as calculated to enhance the efficiency of the whole remedy, namely ergot of rye, oil of savin and aloin.

I selected a series of cases in the hospital, each of which was characterized by a more or less pronounced menstrual disorder of some standing, and administered no other medication for the treatment of the disordered menstruation than Ergo-Apiol. I cite, in illustration, three cases in which the remedy in question was employed. They are only examples of the experience I had with it.

Case I.—Miss V. E. Aged twenty-one years. Was admitted June, 1901. She said that she had not menstruated for nearly a year, and attributed her suffering in body and mind to this fact. She was despondent, and on the verge of committing suicide. The reflex effects of the uterine disturbance were also manifested by the derangement of func-

tion in nearly all the organs. There was entire loss of appetite and a practical cessation of digestion, accompanied by pain after eating. In October, 1901, I began to give her two capsules of Ergo-Apiol (Smith) three times a day until after her expected periods, without any effect. During the month of November I gave her two capsules three times a day, and continued the treatment until December 12th, 1901, when her menstruation returned in a perfectly normal manner. No unpleasant after-effects whatever were noted at any time during this treatment. She improved both mentally and physically during the time of taking this emmenagogue, and her condition was so remarkably ameliorated that she was discharged cured when the menstrual function had been re-established.

Case II.—Miss M. B. S. Aged twenty-four years. Has been suffering from amenorrhea for a year, which persisted in spite of all treatment. She was melancholy, and had a very poor appetite and other disturbances due to her suppressed menstruation. In November, 1901, I began giving her two capsules of Ergo-Apiol (Smith) three times a day. I continued this treatment without any appreciable effect, except that the patient seemed to feel more comfortable, and at certain times during the month she experienced the subjective sensations accompanying the onset of menstruation. Finally, her menses returned on April 21st, 1902. The menstruation was perfectly normal. One week before the next succeeding period I gave her two capsules of Ergo-Apiol (Smith) three times a day, and when the time came for the onset of the flow it appeared in a normal manner. The remedy was continued in doses of one capsule three times a day while the flow lasted. Since the re-establishment of her normal function the patient has gained both mentally and physically, and regained her mental balance and her usual cheerfulness, so that she was discharged cured.

Case III.—Miss L. D. C. Aged fifteen years. A girl of fine physique, who had first menstruated at the age of nine years, but always very irregularly. The menstruation disappeared for a year and then returned. When admitted she was very irregular with a scanty flow that lasted but one day, and was accompanied by severe pain in the head, loins and pelvis. A week before her expected period in January, 1902, I began giving her one capsule of Ergo-Apiol (Smith) three times a day. At the end of one week her menstruation returned, and lasted four days, the flow being normal in amount and accompanied by very little pain. The same treatment was pursued in February, with similarly good results, and from that time on the function was fully established and remained so. There was a marked improvement in both physical and mental condition and she was discharged from the hospital cured.

From my experience with Ergo-Apiol (Smith) and from the experience of a number of other observers, whose findings are published in the literature of the past few years, this remedy represents an emmenagogue of the highest type of efficiency combined with the inestimable advantages of safety, trustworthiness and absence of any unpleasant after-effects. It is probable that Ergo-Apiol owes its efficiency to the particular type of Apiol that it contains, the pure product from which all irritating and injurious impurities have been removed. But it is unquestionably also the accessory remedies, which enter into the combination that contribute to the efficiency of the whole. Ergo-Apiol was easily and agreeably taken by all the patients to whom I administered it, and in no case was there any nausea, eructation, or any other gastric dis-

turbance. Unlike most other emmenagogues, it requires only small doses continued for a comparatively short time to bring about the desired therapeutic effects. Ergo-Apiol (Smith) has not only a stimulating effect upon the menstrual function in amenorrhea, but also a tonic effect upon the muscle fibres of the uterus, for after it has been administered for a few months, the uterus is almost always able to resume its function without any further aid from external sources.

In conclusion, I may note the fact that the treatment of amenorrhea in the insane is always a matter of greater difficulty than in persons with normal minds, and that a remedy that produces perfect therapeutic results, such as I have noted with Ergo-Apiol (Smith) in insane women, may be expected to perform the same services even more promptly in the average case of amenorrhea as met with in ordinary family practice. This is proved conclusively in the numerous cases reported by various observers who employed Ergo-Apiol (Smith) in menstrual disorders, and a partial list of whose publications appear in the annexed bibliography. Ergo-Apiol in the shape of capsules administered three times daily in doses of one or two, beginning a little before the expected menses, and continuing through the period, has proven the most efficient, prompt, safe, and pleasant emmenagogue that I have ever employed. My experience with the drug was such as to lead me to adopt it as a routine treatment in amenorrhea.

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NEWS, NOTES AND ANNOUNCEMENTS.

Burlington and Chittenden County Clinical Society.—The Regular Meeting will be held at 162 College Street, Thursday, March 30, 1905, at 8.30 P. M. The following programme has been arranged: Chronic Gastritis, by Dr. W. G. Church. General Discussion. Refreshments will be served after the meeting.

Medical Sectarianism All Wrong.—We say nothing about the truth or fallacy of the reasoning upon which the system of Hahnemann is founded—that is a matter for individual belief, as we have said; and we do not care to enter into any controversy about it. But we object to all sectarian designations. We plant our feet on the broad platform, that *the doctor must be the doctor unlimited, free and ready to use any and everything that will help his patient, and not restrained within any limits by exclusive theories.—Alkaloidal Clinic.*

The Personal Influence of the Physician in Venereal Diseases.—H. D. Holton, Brattleboro, Vt., (*Journal A. M. A.*, March 11), calls attention to the great good that might be accomplished by physicians giving personal instruction to patients concerning the prevention of venereal diseases. He quotes

circulars discussed at the 1903 meeting of the State and Provincial Boards of Health of North America, which are issued by the various boards to physicians in their jurisdiction.

Don't be foolish. Eat less and play more. Indulge in less fret and fume, and more fruit and fun.—*G. F. Butler.*

There are people too indolent to be healthy; literally too lazy to live.—*Butler.* At least too lazy to be long-lived.

Work your brains and keep in touch with people. Do something for others and forget yourselves.—*George F. Butler.*

Some live like a cucumber; cling to their vine and serve no higher end than rotundity and relish.—*G. F. Butler.*

EARLY DIAGNOSIS OF TUBERCULOSIS.

State Board of Health Issues Circular Which Will Bring to Physicians, in Concise Form, All Information on Diagnosis of Disease to Be Obtained from Exhaustive Review of American or Foreign Literature.

The State Board of Health (Illinois) has just issued, for distribution to the physicians of the State, a circular on "The Early Diagnosis of Tuberculosis," which will bring to the physician in concise and systematic form all of the information on the diagnosis of the disease to be obtained from a most exhaustive review of American or foreign medical literature.

The great interest in consumption, manifested during the past few years, has resulted in extensive scientific investigation, and the importance of early diagnosis, both in saving the life of the patient and in protecting those with whom he comes in contact, has directed much of this investigation to the earliest reliable signs of the existence of the disease.

Unfortunately much of the most valuable material has not yet found its way into the standard text books and lies hidden away in the pages of the hundreds of medical journals and monographs, unavailable to the busy practitioner. It was especially with a view of placing this later information in the hands of the physician that this circular was prepared. In taking up the newer methods of diagnosis, however, the utmost care has been taken to eliminate all that is still questionable or speculative, and those signs and symptoms whose value are under discussion were omitted altogether.

One subject on which there has been some difference of opinion on the part of medical men, however, is discussed in the circular with considerable emphasis, and that is in regard to advising the patient as to the character of the disease. It is the belief of the State Board of Health that, after the diagnosis is established, the patient should be fully advised of the nature of the disease, what he can reasonably expect in the way of cure, what he must do to bring about the best results, and, far from least important, what he must do to protect those who are about him.

According to the circular, "A frank statement of the fact is not unkindness, nor will the knowledge act prejudicially to his physical welfare. Withholding this information removes from the patient and the public their greatest safeguard."

Attention of the medical men of the State is directed to the laboratory of the State Board of Health at Springfield, and it is announced that examination of sputum of patients supposed to be tuberculous, will be made without cost at any time. The establishment of container stations, for the distribution of mailing cases for specimens, one in each county of the State, is also announced and special attention is drawn to the fact that, wherever consumption is found by physicians to exist in unusual numbers, inspectors will be sent to assist in the investigation of the cause and in taking necessary steps to check its spread.

The circular also contains a reproduction from a photograph of the laboratory of the board.—*Illinois State Journal,* Friday, Feb. 17, 1905.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

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Burlington, Vt., March 25, 1905.

EDITORIAL.

VALEDICTORY ADDRESS AT JOHNS HOPKINS UNIVERSITY.

The Journal prints in full, March 4, the valedictory address of Dr. Osler of Johns Hopkins University, which has been quoted and misquoted in the daily press. He deals with some of the problems of university life and states that at times the loss of a professor may be of benefit to a university. He stated that to a man of active mind too long attachment to one college is apt to breed self-satisfaction, to foster a local spirit, and to promote senility. He said that much of the phenomenal success of the Johns Hopkins University has been due to the concentration of a group of intellectual men, without local ties, whose operations were not restricted and who were willing to serve faithfully in whatever field of action they were placed. Dr. Osler advised the interchange of teachers, both national and international, and even advised the changing of college presidents now and then "for the good of the exchequer." He said that intellectual infantilism and progeria were two appalling maladies due to careless habits "of intellectual feeding." As a prophylactic measure he advises visiting other universities and colleges, both at home and abroad. He said that it is a very serious matter to have all the professors in a university growing old at the same time, and said that there should be a fixed period for the teacher, either of time of service or of age. He spoke of the comparative uselessness of men above 40 years of age, and said that to modify an old saying, "A man is sane morally at thirty, rich mentally at forty, wise spiritually at fifty—or never." He said that the young man should be encouraged and afforded every possible chance to show what is in him, and that the chief value of the teacher, who is no longer a productive factor, is to determine whether the thoughts which the young men are bringing to the light are false idols or true and noble ideas. He said that it would be of incalculable benefit, in commercial, political and professional life if men would retire from work at the age of 60. He said that the teacher's life should have three periods, study until 25, investigation until 40, profession until 60, at which age he would have him retired on a double allowance. He went at some length into the history of the Johns Hopkins Medical School, mentioning the strict entrance requirements and the scientific teaching in laboratory work especially. He dwelt on the necessity for practical training in the hospital wards as well as in the laboratories and class rooms. He said that the faculty of Johns Hopkins University has been blessed with two remarkable presidents, who had been a stimulus in every department, and that the good fellowship and harmony among the faculty has been delightful.

It has been very interesting to note the bitter antagonism shown by those who misunderstood Dr. Osler's remarks. He is an inveterate joker and never neglects an opportunity to enjoy fun, even if at his own expense. A careful perusal of Dr. Osler's scholarly ad-

dress will demonstrate how greatly his remarks and ideas have been misquoted.

And then after all does it not seem that the general idea has been substantiated rather than refuted by the heat and temper shown by those who have shown so great aversion to chloroform?

REAL ETHICS.

If there is any one word in the English language that is linked closer to hypocrisy than another it is the much abused word—ethics. Frequent usage has identified it with the many complicated habits and customs peculiar to each profession, that of medicine in particular, but to the shame of humanity, adherence to ethical usages does not always mean adherence to moral principle.

A doctor who would not dare to consult with an irregular practitioner nor to take a colleague's patient, may nevertheless violate the chastity of some trustful woman or the sanctity of some friend's home with far less danger of criticism or loss of professional standing.

The same physician may view with horror a breach of professional courtesy in his personal relations with his brother practitioners, but at the same time never neglect an opportunity to belittle or smirch the ability and work of his colleagues behind their backs. The same physician would sooner die than advertise, but he will pay some cheap reporter the price every time to have glowing reports of his operations or work printed in the papers. The same physician will refuse with righteous objections to using proprietary remedies whose exact formula he does not know, no matter how valuable thousands of his fellow practitioners have found them, but he will go on using with unctious satisfaction tinctures of opium, digitalis, hyoscyamus, aconite, and extracts of cascara, ergot, belladonna and countless other drugs of which he knows still less in regard to their exact composition.

In fact it is the element of inconsistency that has thrown so much discredit on the so-called ethics of business, the practice of medicine in particular. The fault lies in the fact that the great body of people have considered the ethics of their calling to refer only to particular manners and customs, with complete disregard of the underlying principles of general living. The error of this ought to be apparent.

True ethics can never be limited to rules of conduct. Ethics means honesty and the fundamental principle of honesty is honesty of purpose. Therefore, ethics in its true sense means honest purposes toward one's fellow men, and respect of their moral rights quite as much as their property rights. It means *thinking* right and *doing* right as well as acting right. It means shaping one's life so that he can look every man in the face and have no excuses nor apologies to make for one's acts.

Above all, it means living your own life, meeting your own problems, and doing your whole duty to yourself and all mankind with unswerving honesty of purpose, action and deed. True ethics, therefore, can affect a body or profession only through the individuals composing the same, and no one can do more for his calling, than to live his own life and do his own work, as honestly and as well as possible.

MEDICAL ABSTRACTS.

TUBERCULOSIS.—Norman Bridge, Los Angeles, Cal. (*Journal A. M. A.*, March 25), insists on the importance of reinforcing the nutritive forces of the body as the chief agency in the cure of tuberculosis. The fear of draughts is a popular error; another is overfeeding and the recommendation of alcoholics. Still another is the indiscriminate recommendation of exercise, as if muscular development could

help to resist the disease. He also opposes deep-breathing exercises. What we need is a safe and efficient method of putting a sick lung at rest in all unilateral cases. Another error is the use of ergot in hemorrhage, tending to increase the blood pressure, and the administration of normal salt solution in exsanguined cases, thus again distending the vessels and opening up their lesions. The patient is most likely to survive a large lung hemorrhage when the blood pressure of the parts is lessened to the utmost for the time. Still other errors are the recommendation of indiscriminate eating, taxing the digestive organs, errors of clothing, the injudicious recommendation of change of climate. In Illinois, patients, by proper management, can be given 85 per cent. of the benefits of the very best climates. With the modern treatment of the disease properly carried out, in almost any climate its mortality can be reduced another 10 per cent., and this he maintains will be effected.

THE BLOOD CHANGES IN PNEUMONIA.—In blood cultures from 175 cases of lobar pneumonia, E. C. Rosenow, Chicago (*Journal A. M. A.*, March—), found pneumococci in all but 15. In 11 of the 15 cases the second culture was not possible. In the other 4, repeated cultures failed, though in one careful search of the smears directly from the blood revealed pneumococci. Leucocytosis was high in all 4, and he was inclined at first to suspect a phagocytic action, but later research showed that the negative cultures were made later in the disease, thus indicating a diminution in number or viability, or both, of the pneumococci at the time of crisis. Rosenow does not seem to consider the blood cultures of great prognostic value in this disease, though he says, other things being equal, a high leucocytosis appears to be a favorable sign rather than otherwise. The agglutination test of the pneumococci he does not think of much practical value. The point he considers of most importance is the reaction changes; a well-marked acid reaction associated with a voluminous sediment appearing in cultures of pneumococci in pneumonic and not in normal serum. He asks, in view of this fact, whether some of the symptoms of pneumonia may not be due to an acid intoxication of the system, and, in support of this theory, he adduces experiments which have been made with the alkaline treatment for a year past in Dr. Frank Billings' clinic, in the Presbyterian Hospital. From one to three drams of sodium bicarbonate in at least 4 ounces of water were given by the mouth or in still larger doses by the rectum. No other treatment was employed except heart tonics, catharsis or venesection whenever required, which was seldom. Judging from the results this alkaline treatment seems rational.

GLYCO-THYMOLINE AS AN ORO-NASAL AND A GENERAL ANTISEPTIC.

By David Walsh, M. D., Senior Physician, Western Skin Hospital, London, W.

(Abstract from the Medical Press and Circular.)

It is only by slow degrees that medical men as a profession are learning to realize the important part played by bacteria in the cavities of the nose and mouth. One sign of this appreciation may be found in the fact that washes and gargles for the mouth and throat are being more and more adopted in everyday practice. The systematic use of such applications, however, so far as the nostrils are concerned, is for the most part still confined to specialists. One reason for this comparative neglect of a simple method of treatment by general practitioners has, no doubt, hitherto lain in the difficulty of obtaining a safe and at the same time, an efficient antiseptic and cleansing

fluid for the mucous membranes in question.

Glyco-Thymoline was brought to my notice as an excellent lotion for nasal and oral sprays and washes. On due inquiry it was found to fulfil the conditions usually recognized by medical men in the United Kingdom as vouching for the character, so to speak, of such a preparation; its composition is not a secret, its formula being freely published. Under these circumstances, I determined to try the effect of this preparation in a few suitable cases. As a general antiseptic fluid that does not coagulate albumen, and is non-irritant, deodorant and practically non-poisonous, Glyco-Thymoline has clearly a wide range of usefulness. My own observations, however, have been practically confined to its use in the nose and mouth, with results that have proved satisfactory in every instance, especially in acute coryza, pharyngitis, influenza, and septic conditions of the mouth.

In Glyco-Thymoline we have a good and safe application in all septic conditions of the mouth, throat and nose. It seems not improbable that in the near future medical men will attend more than they have done hitherto to the mucous membranes of the upper respiratory tract in influenza, measles, scarlatina, chronic and acute coryza, whooping-cough, and other infectious ailments. Postnasal catarrh—that curse of modern civilization—has never been adequately attacked by the general practitioners. Carious teeth, again, another defect of civilization, are apt to damage the general health considerably. In both these conditions Glyco-Thymoline will be found a safe and effective remedy well worth a careful trial in practice.

NEWER REMEDIES.

The Treatment of Exophthalmic Goitre With the Blood of Thyreoidectomized Goats.—In 1894, Lantz treated two exophthalmic-goitre patients with milk from thyreoidectomized goats. The results were so favorable that the treatment was applied to four other patients, all of whom as a consequence showed marked improvement and gain in weight.

In 1894 Drs. Ballett and Enriquez took the blood of thyreoidectomized dogs that had lived long enough to experience the blood-changes which loss of thyreoid function is sure to entail,—and injected that blood into patients suffering from exophthalmic goitre. The results were so encouraging that other practitioners soon adopted the method, or a modification of it. The *Deutsche Medicinische Wochenschrift,* No. 38, 1899, contained a report of three cases of exophthalmic goitre, in the practice of Dr. Burghart, that improved under the treatment, two of them decidedly. Dr. Burghart did not confine himself to the use of injections, but administered a dried alcoholic extract of the blood.

Later, a Darmstadt chemical house prepared a serum from the blood of thyreoidectomized sheep, which, administered to patients who had exophthalmic goitre, produced a good effect; it was given both per os and subcutaneously.

A patient of Schultes (*Munch. Med. Woch.*, No. 20, 1902) in whom the symptoms of exophthalmic goitre had been in evidence for four years, with pronounced psychic disturbance at times, is said to have been completely cured in two months by the use of gradually increasing doses of the serum (from the blood of thyreoidectomized sheep).

In 1901 Mobius (*Munch. Med. Woch.,* Jan. 27, 1903), proposed the preparation of a serum from the blood of sheep, from which the thyreoid gland had been removed, to be used in the treatment of exophthalmic goitre. He first injected 1 gramme of serum subcutaneously, but subsequently found that better

results could be obtained by giving it internally. In his patients, all of whom had been treated for years with various remedies, the circumference of the neck was reduced, the goitre became smaller, and the patients slept better and were less agitated. It is not presumed that a cure can be established by this mode of treatment, but there seems to be sufficient ground to hope for beneficial results.

Messrs. Parke, Davis & Co., have prepared a dried product of the blood of thyreoidectomized animals, called "Thyreoidectin," which appears to produce the effects observed by Lantz, Mobius *et al.* In most of the cases in which it was tested the patients experienced much relief from restlessness, tremor, insomnia, and the usual train of nervous symptoms so generally observed. A gradual reduction of the pulse-rate and in the size of the gland was also noted.

ADULTERATED FOOD PRODUCTS AND FOOD STUDIES.

By E. F. Ladd, Chemist and Food Commissioner, Fargo, North Dakota, U. S. A., November, 1904.

(Abstract from North Dakota Agricultural College, Government Agricultural Experiment Station of North Dakota, Bulletin No. 63.

LIQUOZONE.

This product is largely advertised and sold in North Dakota, and has frequently found its way to our laboratory for analysis. It is made by the Liquid Ozone Company, Chicago. After enumerating fifty diseases for which liquozone is recommended they add "All diseases that begin with fever—all inflammation, all catarrh in any part of the body, all contagious diseases, all the results of impure or poisoned blood." "We will pay $1,000 to the physician or scientist who discovers a disease germ which liquozone will not kill." "Liquozone, liquid oxygen invariably cures any trouble caused in any way by germs." It will be seen by the last statement an attempt is made to convey the idea that liquozone is liquid oxygen, a ridiculous and false statement. They would have the public believe liquozone a "cure all" for everything, from weak eyes to asthma, pneumonia and piles. In water it will purify it, and prevent typhoid. In milk it will sterilize it, and in beer it prevents fermentation and biliousness.

What is this wonderful product so persistently advertised and lauded by its interested promoters? One sample of liquozone was found to contain a total acidity of 1.34 per cent. of which 1.18 per cent. was in the form of sulfuric and sulfurous acid. The total solids of black liquid residue of acid reaction amounted to 1.82 per cent., and the ash residue to 0.025 per cent. The character of the solid and ash clearly indicate free acid. Other samples examined by us have shown an acid content of as high as 1.73 per cent., indicating that the product is not by any means uniform in its composition. The free use of any product containing this amount of uncombined sulfuric and sulfurous acid cannot be looked upon as wholly without possible harmful effect upon the human system. The public will do well to use such products only upon the advice of the family physician.

A trial is all that is necessary to prove the merits of aletris cordial rio in every form of uterine trouble.

In an encapsulated form oily, bitter, nauseating, acrid and pungent remedies are administered without offending the taste. Drugs thus taken are thoroughly disguised and the trouble of measuring fluids is dispensed with. Soluble Elastic Filled Capsules manufactured by Hance Brothers & White are by them termed "Solules" on account of their superiority in workmanship and finish. "Solules" are

uniform in size and shape and without air-bubbles: under ordinary conditions will keep indefinitely. The exact amount of medicament in each "Solule" is known.

Selected drugs that are pure and active only are used in the manufacture of "Solules."

As none of the preparation is on the surface of "Solules" they are easy and pleasant to take. Even a great amount of the odor is hidden.

Samples and literature will be sent upon request to Hance Brothers & White, Philadelphia.

An Eligible Combination.—A number of years ago Dr. James J. Sullivan (University Medical College) New York City, applied the remark, "An Eligible Combination" to a then new preparation of well known synergetic remedial agents. It is almost unnecessary to state that the preparation to which he referred is now well and favorably known as Antikamnia and Codeine Tablets, each tablet containing ¼ gr. codeine and 4¾ grs. antikamnia. *A fact which should not be overlooked, is that the codeine used in this tablet is specially prepared and purified, is non-constipating, and does not induce a habit. These are some of the particularly advantageous features of the Antikamnia Chemical Company's codeine and are well worth bearing in mind.*

In the harrassing cough of phthisis, or in the pain of pleuritis, in the painful sensation accompanying bronchitis when the tubes are dry and irritable—as they usually are—the blending of the two drugs composing Antikamnia and Codeine Tablets will not be found wanting in action, but will give results that are gratifying to both the patient and the medical attendant. This tablet is a sedative to the respiratory centers in both acute and chronic disorders of the lungs. Cough, in the vast majority of cases, is promptly and lastingly decreased, and often entirely suppressed. In diseases of the respiratory organs, pain and cough are the symptoms which especially call for something to relieve and this tablet does the work. In addition it controls the violent spasms accompanying the cough, which are so distressing.

Salithia.—Magnesium sulphate has long been recognized as the most effective of the Saline cathartics. Modern methods of treatment demand the establishment of a clean and empty alimentary canal primæ viæ and this obtained it is easy to affect the system as may be desired. Salithia is a combination of magnesium sulphate lithium and colchicine in effervescent form. It is the "twin" of Saline Laxative (Abbott) which has become a standard remedy with the profession. The formula was particularly designed to relieve the system of uric acid and at the same time to exert a decided chologogue action. In all diseases of the uric-acid type Salithia should be given in dram doses once or twice daily (preferably largely diluted with hot water) and if it is given on an empty stomach early in the morning its effect is apparent in two hours. Hepatic activity is secured and a normal condition of the urine follows in a few days. In using Salithia in Gout, Rheumatism or Lithemia it is well to exhibit conjointly Calcalith (calcium carbonate comp.) in ten-grain doses three times daily. If you have not yet used these two remarkable remedies you should do so. They are "reputation makers" and that means money makers, of course. Literature and samples will be sent free; as well as a free copy of Abbott's Alkaloidal Digest, a 300-page book of brief therapeutics and practice, by addressing The Abbott Alkaloidal Co., Ravenswood, Chicago, Illinois.

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ORIGINAL ARTICLES.

THE SECONDARY WORK OF THE DIGESTIVE JUICES.*

By Dr. C. F. Dalton, Burlington, Vt.

The word "secondary" is used somewhat arbitrarily in this connection, mainly for want of another word which more clearly expresses the desired meaning. The object of this paper is to turn aside from the beaten paths of physiology and show some of the less-known functions of the digestive fluids as well as to call to mind some of the questions which confront the physiologist or physiological chemist, who endeavors to explain all that he discovers in his investigations.

THE SALIVA.

The first digestive fluid with which the food comes in contact in the alimentary canal is the saliva. This secretion is continuous, though more abundant, under the direct stimulus of food, or indirectly the desire or thought of the same. The only food principle upon which the saliva acts chemically is starch, and this starch must be cooked, or, in other words, released from its containing envelope of cellulose. The ptyalin of the saliva has the power to convert cooked starch into dextrin and maltose, but this process requires from one to three minutes, together with thorough mixing. Is it not pertinent to ask where is the man in this generation who spends one to three minutes over each mouthful of food? True, it does continue to act in the stomach until permeated by the HCL, but even so, it is doubtful if the saliva is sufficiently mixed with the bolus to cause much change in the short time before it is rendered inert by the acid reaction.

As to the extent to which saliva may carry carbo-hydrate digestion, some authors, Hammarsten, Witthaus and others, describe an enzyme called glucose, which is capable of converting maltose into dextrose and levulose In the college laboratory last year, only one student in a class of 62 succeeded in obtaining dextrose as a product of his own salivary digestion.

Now, since the saliva is so little used, it would appear that the removal of the salivary glands would cause no disturbance in digestion. This has been proven to be a fact. Dogs deprived of their salivary glands, by a German observer, showed no evil effects, although it was noticed that the dogs drank more water than usual with their regular diet.

It appears then that the digestive function of the saliva is held continually in abeyance and that possibly its chief importance at present lies in its mechanical action. It keeps the mouth clean by constant secretion and protects the teeth from the action of acids. It moistens the food to a greater or less degree, but certainly affords easy passage through the esophagus by its viscidity. The large quantity secreted and swallowed also furnishes fluid for the solution of the food substances in the stomach and intestine. In support of *this* view it may be shown that certain mammals who live in the water, and whose food is therefore sufficiently moistened, entirely lack salivary glands.

*Read at a meeting of the Burlington and Chittenden Co. Med. Soc.

THE GASTRIC JUICE.

The gastric juice, the next fluid in order, differs from all the others by its acid reaction. This reaction is due to the presence of free and combined HCL, the amount of which is sufficient to completely saturate all the bases present and still leave free acid in the stomach. The significance of this acid reaction is usually thought of as furnishing a medium in which the pepsin may act, this ferment being entirely inactive in any other than an acid medium. Later developments, however, seem to show that it is the pepsin which has been adjusted to act in the acid medium, and *not* the acid made for the pepsin. This assertion gains credence in the fact that pepsin acts in oxalic, lactic, phosphoric, and slightly in sulphuric and other acids. What then is the purpose of the large amount of HCL secreted by the gastric glands, which has the labor of acidifying all the food taken, which labor is immediately undone, as soon as the food reaches the intestine?

It is a known fact that free mineral acid is one of the best antiseptics, and also well known that the food eaten by man and beast contains great numbers of micro-organisms of various kinds. It is quite reasonable then to attribute to the HCL the function of killing the bacteria which reach the stomach, and thus preventing the putrefactive process which would otherwise destroy the food by decomposition before absorption could take place.

Nor is it simply left that there should be an acid reaction without definite strength. Experiments have been carried out to show what strength of acid suffices to prevent the developments of putrefactive organisms. With a solution of .1% HCL it was found that slight putrefaction was detected within 24 hours. A strength of .25% prevented the development of organisms until the seventh day. A third experiment, with a solution of .5% strength was only capable of retarding putrefaction until the seventh day,—showing no apparent advantage over the weaker solution. The estimation of free acid in the stomach shows a strength of .2%. We thus observe that the free HCL in the gastric juice exactly corresponds to the minimum quantity necessary to prevent decay during the time the food might, under any circumstances, remain in the stomach.

Unfortunately the antiseptic powers of the gastric juice do not extend to all the bacteria which are introduced into the alimentary canal. Certain pathogenic organisms, among them the tubercle bacillus, are not acted upon by the gastric juice. The comma bacillus is easily killed by dilute HCL. Anthrax virus has been rendered inert by the gastric juice, but anthrax spores seem able to resist its action.

Free HCL of the stomach is without doubt responsible for the so-called "alkaline-tide" of the urine directly after a meal. The explanation is probably as follows: During the height of gastric digestion, the bases of the blood lose their Cl by the formation of HCL. These bases unite with the phosphates of the urine to form alkaline phosphates, in place of the acid phosphates to which the reaction of the urine is ordinarily due.

The latest function attributed to the HCL is that the acid reaction causes the opening of the pyloric sphincter, allowing the chyme to escape into the intestine, and reversely, by coming in contact with the alkaline intestinal walls, closes the sphincter again and keeps it closed until the portion in the intestine is sufficiently neutralized. This is the result of researches by Pawlow.

These facts then we may state regarding the gastric juice: From a membrane in which no acid can be found, a free mineral acid is secreted. This acid is in exactly the correct proportion to keep the stomach contents from

putrefaction. It also kills some pathogenic bacteria, though others are not injured by it. It is responsible for the alkaline tide of the urine. The pepsin seems to be a subsidiary ferment, secreted to begin the digestion during the process of acidifying the food. The control of the pyloric sphincter may be due to chemical rather than mechanical conditions.

THE PANCREATIC JUICE.

Upon leaving the stomach, the food comes under the influence of three digestive juices, all alkaline in nature, the pancreatic juice, the bile, and the intestinal juice. At the present state of our physiological knowledge the pancreas appears to be the most important of all the digestive agents. It is described as having three principal ferments: trypsin, amylopsin and steapsin or lipase, and also a milk curdling ferment. It has been only very recently, however, that any author has had the temerity to claim a separation of these ferments into their single functions, it being generally mentioned that in all attempted isolations the only result was a fiuid having the three-fold action.

In passing, let me remind you that the amylopsin of the pancreatic juice changes all starches and sugars to a single sugar, called grape sugar or dextrose, in which form they are absorbed. The fate of cellulose, the so-called insoluble carbo-hydrate is as yet little known. Much of it goes thro' the entire tract undigested. Outside of the body it withstands the action of all the digestive secretions. Yet within the intestine some cellulose is certainly made use of. This may be due to some as yet unknown combination of digestive chemicals, or to the action of bacteria. A few authors claim that cellulose is not used as food, but is split up to form carbonic acid and marsh gas.

As to the proteolytic action of the pancreas, I shall simply say here—that as far as we know, it is identical with the gastric action up to the point of peptones, but has the power of carrying proteid digestion to a still further stage. Of peptones I shall speak more later.

It has long been known that fats were absorbed in the form of an emulsion, produced by the combined action of the pancreatic juice and the bile. Now an emulsion cannot be formed from a fresh fat alone. A small amount of free fatty acid must be present, or in other words, the fat must become slightly rancid before an emulsion can be formed. The lipase or steapsin is the agent which performs this fat-splitting function. But according to Oppenheimer, in his work on Ferments, the lipase has also a reversible action—that is, it is able from fatty acids and glycerine to build up true fats. To what use this power may be put, I am unable to say.

The pancreas also has some unknown action regarding the absorption of fats, for after extirpation of the pancreas in dogs, fat absorption is entirely abolished, altho' some of the fats may have been split up into glycerin and fatty acids by bacterial action. If some pigs' pancreas is now fed to the dogs along with the fat, a portion of the latter is absorbed. This may be due to the alkaline reaction produced by the sodium carbonate of the pancreatic juice; yet it has been shown that an intestinal emulsion differs from other emulsions in not being destroyed by a slightly acid medium. Therefore as regards this action we are as yet quite in the dark.

To sum up the work of the pancreatic juice: Altho' it is probably the most important of the digestive juices, it is the one we understand the least. It carries on the regular digestion of proteids and carbo-hydrates, but in its work on fats it must be assisted by the bile. It also has a marked influence on the absorption of fats.

THE BILE.

The bile is peculiar in being the only digestive secretion poured into the alimentary canal before birth. Its secretion is said to begin about the third month of embryonic life, and the products are found in the meconium of the new-born. When bile is prevented from reaching the intestinal tract, from any cause, fats cannot be digested, but appear in the feces. For this reason the feces of a jaundiced person are light gray or clay colored. This is not due to the absence of bile pigments, as was originally thought, but to excess of undigested fat. If these feces be extracted with ether to dissolve out the fat, the dark color returns. While the bile cannot digest other food substances than fat, its absence hinders the digestion of all foods. The fat forms an envelope around the carbo-hydrates and proteids and shuts off the action of the digestive fluids, at the same time allowing the putrefactive bacteria, which the food has gained since entering the intestine, to begin their work. This fact of decomposition in the absence of bile has been construed as ground for an antiseptic action in the bile. In reality the bile cannot even protect itself from decomposition, and if there is any such action it is due to the free bile acids, which may have some slight power in the upper part of the small intestine before the acid reaction is changed.

THE INTESTINAL JUICE.

There remains for consideration only the intestinal juice. Thiry, a German scientist, made an artificial fistula in the small intestine of dogs, to obtain this juice. Demant, another German, had opportunity to collect the fluid from an artificial anus following herniotomy. Results were very unsatisfactory in both cases. The juice was found to act on boiled starch but that only slightly. However, the property of inverting double sugars is accorded this secretion by most authors. But it apparently has further use. Both the observers mentioned agree that the intestinal juice is rich in sodium carbonate. The conclusion is that this fluid has the work of neutralizing the acids of the intestinal contents, the remaining HCL of the gastric juice,and the butyric and lactic acids which have been formed by fermentation. Another curious action ascribed to the intestinal juice, is that in combining with the acids it forms a gas and so forcibly breaks up any food which may have come thro' in bulk, thereby enabling the other ferments to do their work.

In a recent article by Mendel of Yale, published in the Journal of the A. M. A. (Nov. 19) he intimates that the intestinal juice is of much more importance than has hitherto been supposed. He refers to the theory that the intestinal juice is necessary to "activate" the trypsinogen of the pancreas, thereby throwing the responsibility of all the proteolytic action in the intestine upon the presence and integrity of this juice.

From the foregoing statements one may realize something of the chaotic state in which physiological chemistry is at the present time. The difficulty of course lies in the fact that what a ferment or dead membrane will do outside the body, may be entirely different from its action while in its native element, and mixed with other secretions. Hammarsten expresses the problems well in his introduction to an article on chemical processes in the intestine: He says: "The action which belongs to each digestive secretion may be essentially changed by mixing with other digestive fluids; and since the digestive fluids which flow into the intestine are mixed with still another fluid, the bile, it will be readily understood that the combined action of all these fluids in the intestine makes the chemical processes going on therein very complicated."

A word may not be out of place here regarding the fate of proteid and carbohydrate products before they can be utilized in the body structure. In studying digestion one does not always realize that the laborious process of breaking down proteids and carbo-hydrates into simpler chemical compounds is apparently all undone before the system makes use of the same. Take, for example, egg albumen, which we classify as a native albumen. During digestion it goes through the various stages of syntonin, proteose and peptone, one or all requiring from two to five or more hours, and is then ready for absorption. But is it used as peptone? No, we do not find peptone in any of the tissues, and if introduced into the blood it is at once thrown off by the urine. Experiment shows that probably in the passage through the mucous membrane of the stomach or intestine, peptone is changed back to serum-albumen, which is again a native albumen,—the very thing which it was before digestion. Why was all this work done when the whole process is reversed perhaps in a very few moments?

Again, take starch, a polysaccharid; it must go through the stages of dextrin, maltose and dextrose before it can be accepted for absorption. Then note what occurs. It is at once carried to the liver, which picks out the greater part of the dextrose and changes it back to glycogen, a form of starch—polysaccharid, which it was before digestion. Such sugar as the liver does not take out is carried to the muscles, which also appear to have the power of transforming sugar into glycogen. Then the blood goes to the kidney which measures, as it were, the amount remaining and takes out the excess, allowing not more than 3% to circulate in the blood.

The analogy between these food products is quite striking in their preparation previous to absorption and their subsequent change. Just why the body goes through the process of peptonization, for instance, and then refuses to use the product of the same is difficult to say. It certainly produces chemical action and so furnishes heat, but whether this is simply Nature's way of burning fuel and utilizing the after-products can only be conjectured. On the other hand it has been suggested that this is the only means of maintaining the chemical integrity of the body from the coarse and foreign substances which are taken as food. This theory is certainly within the bounds of reason.

SUMMARY.

In conclusion, let me briefly summarize these functions which we do not look upon as *digestive* in the strict sense of the word:

In the saliva.—Its mechanical action in cleansing the mouth, diluting and dissolving the food, and lubricating the bolus for its passage into the stomach.

In the gastric juice.—The antiseptic action of the HCL upon putrefactive and some pathogenic organisms—the acid being apparently the principal secretion and the pepsin more or less incidental; also the action of the acid in opening and closing the pyloric sphincter.

In the pancreatic juice.—Its action on cellulose, as yet practically unknown, its reversible action on fats, and its influence on the absorption of fats.

In the bile.—Its peculiar influence on all matter in the process of digestion shown by the negative results caused by its absence.

In the intestinal juice.—The work of neutralizing the acids and forcibly breaking up the food substances that the maximum quantity may come under the influence of the other juices; also its possible action in releasing active trypsin from its mother ferment.

THE TEST BREAKFAST.*

What we may learn; and what we would like to learn from its examination.

By Dr. C. F. Ball, Rutland, Vt.

INGREDIENTS.

The variety of foods and liquids used by various men for this purpose is of interest. Ewald-Boas' test meal consists of from 35 to 70 grams of wheat bread and of 300 to 400 c. c. of water or weak tea without sugar, the gastric contents to be obtained one hour later. The test dinner of Reigel consists of a plate of soup (400 c. c.), a beefsteak (120 grams), a slice or two of stale wheat bread (50 grams), and a glass full of water (200 c. c.), the contents of the stomach to be obtained four hours later. Klemperer suggests a pint of milk in place of the usual amount of water or weak tea, with the same amount of stale bread, test to be taken two hours later. Boas boils down 1,000 c. c. of water to 500 c. c., containing one tablespoonful of rolled oats, to which a little salt may be added if desired. Instead of rolled oats Kellogg uses toasted rolled wheat (45 grams), with 200 c. c. of sterile water, to which is added 8 grains of salt. The salt solution is used for the purpose of aiding absorption; both tests to be taken exactly one hour after beginning the meal. The amount of fluid obtained from a test breakfast by means of the stomach tube varies from 20 to 80 c. c. or more.

ESTIMATION OF STOMACH CAPACITY.

An approximate estimate of the stomach capacity is obtained by pouring just 100 c. c. of water down the tube after all possible of the original test meal has been obtained. This 100 c. c. of water is mixed with the remaining gastric juice by quick manual or diaphragmatic movements. As much of this lavage mixture as possible is collected. Determine the acidity of each of the two fluids by titration. Then the estimated stomach contents is calculated as follows: Knowing the relative acidity of the two fluids and the amount of the first, find the amount of the second; that is, in this case, the estimated stomach capacity.

PHYSICAL INSPECTION.

The appearance and odor of the fluid should be noted, as a large quantity of thick, stringy, nearly colorless mucus comes from the stomach, and a frothy, whitish mucus from the oesophagus, pharynx and mouth, which latter flow is excited by the irritation of the stomach tube on these parts. It is of no special significance, while the first condition associates itself with the graver forms of gastric disorders.

In the presence or suspicion of blood, examine for hemin crystals. Microscopically blood may be demonstrated by the finding of the red blood cells.

Undigested food is to be noted indicating either a faulty mastication or a motor insufficiency, or both.

The odor, if offensive, usually smells of butric or lactic acid fermentation. It may possess a peculiarly heavy and characteristic foulness, due to putrefactive changes.

CHEMICAL ANALYSIS.

Butyric acid fermentation is best determined by its odor, the quantitative determination not being necessary.

Lactic acid fermentation is determined chemically by the iron chloride test. Many special lactic acid tests have been devised, but are practically useless, as shown by Palier in his paper on Lactic Acid Fermentation. He depends entirely upon the reaction given by a lactic acid solution, upon a nearly colorless

*Read at a meeting of the Rutland Co. Med. Soc.

dilution of the official *liquor ferri chloridi.* He states that HCL 2-1000, or any other inorganic acid, will mask this test. He also states that lactic acid is formed by bacterial growths in all our food stuffs within varying times. Consequently the lactic acid test does not mean a probable diagnosis of carcinoma, as heretofore entertained. His five laws are as follows:

"1. Lactic acid develops in all organic substances containing carbohydrates whether sugar or starch; and in some substances, even while yet in solid form, such as bread and meat, for instance, at certain seasons which are especially favorable for bacterial development, some lactic acid exists already; and on dissolving such substances in water, the lactic acid reaction can be soon detected.

"2. Lactic acid formation is due in all cases to bacterial development, even the so-called sarcolactic acid of meat. Furthermore, many kinds of bacteria can by their development bring about the formation of lactic acid in substances containing carbohydrates; but the bacteria usually vary in the different substances.

"3. Lactic acid does not give the usual reaction with the usual tests when an inorganic acid is also present in sufficient strength.

"4. The lactic acid development is hindered when there is an antiseptic present, such as HCL, for example, acting against those bacteria which bring about the lactic acid development; but the lactic acid that had been formed before HCL was added, is not destroyed when the latter is added. It is only masked as far as the ordinary reactions are concerned, and its further development arrested; but it can be separated by means known to chemistry.

"5. HCL enters into combination with albuminoids, and after some time it does not give the usual reaction, though it was marked when it was first added; and then bacteria appear, and also lactic acid begins to form, the latter in substances containing carbohydrates.

"From the foregoing it will be seen that the presence or absence of lactic acid in the stomach contents can give us some information concerning the condition of that organ, but it is positively not pathognomonic of any particular affection, and any one who will rely much on this for making a diagnosis of cancer, for instance, as is done by some very good men, is surely apt to err, though he may succeed in guessing right a few times."

Pepsin estimation is of special importance. The two methods in most common use are those of Hammerslag and Mette. Mette's tubes for the estimation of pepsin activity upon egg albumen are probably the most frequently used. His method is as follows:

"Thin walled glass tubes of about 1 mm. or 1.5 mm. in diameter are filled with fresh egg albumen and thrown into water of about 90° c. to 95° c., remaining 15 minutes. These are then removed, dried, and the ends closed by winding a small, thin piece of absorbent cotton around them, after which the ends are dipped in molten paraffin.

"To determine the presence and action of pepsin, a piece about an inch and a half long of the prepared Mette's tube is cut off with a file, and the ragged end filed straight and smooth. This piece of tube is then put into a petri dish of 10 c. c. capacity, the dish filled with filtered chyme, and covered to prevent evaporation. The petri dish, provided with chyme and albumen tube, is covered and put into an incubator, the temperature of which must be kept between 37° c. and 40° c. for from 12 to 20 hours. The petri dish is then removed from the incubator, the capillary tube dried, and the column of the digested albumen is read off in millimeters. Normally about 5 millimeters of albumen are digested." Knapp.

Maltose should be quantitatively determined because it represents salivary activity. Maltose is readily estimated by its power to reduce $CuSo^4$ to CuO. The amount of $CuSo^4$ converted into CuO is determined by weighing the CuO thus reduced by any given quantity of stomach fluid. Of course the mixture has to be passed through the proper steps for such an estimation.

Rennin should be tested for. Inasmuch as it coagulates milk, it is tested for in this way: 5 c. c. of neutral milk are placed in a test tube, to which is added an equal quantity of neutralized stomach fluid. This mixture, when placed in an incubator, kept at 37° to 40° c., will coagulate in about 30 to 60 minutes, thus showing the presence of rennin or its zymogen.

The presence of a fat splitting ferment in the gastric juice has not as yet been demonstrated, though believed by some to be present.

PHYSIOLOGICAL DATA.

(The acidity of the unfiltered stomach contents is always in excess of its filtrate,but common practice uses the filtrate only for a chemical analysis.) The exact quantity of free HCL, combined chlorine, and fixed chlorides, is of the utmost importance. Pawlow has demonstrated in his experiments, principally upon dogs, that it is the presence of free HCL in a sufficient quantity that opens the pylorus. This allows the stomach contents to be expelled into the intestines, the duodenum possessing a sensitiveness to the presence of this acid that reflexly closes the pylorus when a certain acidity has manifested itself in the duodenum. As soon as this acidity has been neutralized by the duodenal alkalies secreted, it relaxes its inhibitory reflex upon the pylorus and allows the acidity of the chyme to again open the door and permit the passage of more fluid. The same role again to be repeated by the duodenal mucosa and reflexes. So on to the end of digestion.

Following the work of Pawlow, the extended experiments of Cannon upon the rate of flow out of the stomach of different food stuffs are of intense interest. He clearly demonstrates that carbohydrates quickly excite a flow of free HCL, which, not being able to unite freely with the carbohydrates, acts directly upon the pyloric sphincter, thus hastening their exit. Proteids readily excite a flow of free HCL, but it is at once taken into chemical combination as a combined chloride. Sufficient free HCL has first to be secreted, to satisfy this proteid hunger before it can exist free as the signal for the pyloric sphincter to open. Consequently proteids pass slowly out of the stomach,thus allowing time for their digestion. Fats take the longest time in leaving the stomach. They only slightly excite muscular movements and gastric secretions, giving but little free HCL with which to open the pylorus. When in the duodenum the fats excite a flow of the alkaline secretions as do acids, so tend reflexly to keep the pylorus closed. In this way their onward course is impeded.

CHLORINE ESTIMATIONS.

From the above facts it becomes evident that the most serviceable information to be obtained from the test breakfast is that of the relation of free HCL to proteid combinations, loosely combined or fixed. This information is usually obtained to a certain degree of accuracy by means of acidimetry, using Knapp's modification of Topfer's method, or some similar process. Topfer uses a 5% solution of dimethyl—as an indicator for the determination of free HCL. This test is sensitive to small amounts of the free acid, but it, however, masked by the presence of organic acids in excess of 5%. For this reason Knapp uses tropeolin OO for the exact determination of free HCL, continuing his titration with dimethyl for the estimation of the organic acid, that is, dimethyl titration, minus the tropeolin

titration, gives the organic acid value. For the estimation of the combined chlorides, Topfer uses alizarin as the indicator in a 1% watery solution. The total acidity is obtained by using the usual 1% alcoholic solution of phenolphthalein as the indicator. In each case use for titration a standard or an empirical solution of NaOH, expressing the value in percentages or in Mgs of HCL.

Kellogg says Topfer's "method is especially faulty in that it furnishes no good means of determining the amount of free HCL present, since the chlorine in combination with albumen possesses the same degree of acidifying function as does free HCL, so that, with a given total acidity, the chlorine present may be entirely in the form of free HCL, or may exist only in combined form. It is certainly a matter of great practical importance to know whether the chlorine in a given gastric fluid exists in a free state, or whether it is combined with albumen."

For this reason he advocates probably the most accurate method yet devised for the estimation of these quantities, the method of Hayem and Winters. Ewald says of this process that it is "faultless even to this day." Believing this method to be the most accurate and complete estimation of the free HCL and chlorine combinations, leads me to quote from a translation of a work by Hayem and Winters; their method as follows:

"Place in three capsules, designated respectively as (a), (b) and (c), 5 c. c. each of the stomach liquid, previously well filtered.

"To capsule (a) add an excess of carbonate of soda, then evaporate all the capsules to dryness on the water bath, after which proceed as follows:

"Carry capsule (a) progressively and cautiously to a red heat, avoiding a higher temperature. The capsule should be withdrawn from the heat when the points of ignition are no longer visible. The calcination should be just sufficient to produce a colorless solution. (Wash with hot dilute nitric acid and neutralize.) (Ball.)

"After filtration with Berzilius's filter paper, and washing the residue with boiling water, the amount of chlorine present is determined by a decinormal solution of nitrate of silver in the presence of neutral chromate of potash.

"The sensitiveness of the method with the chromate of silver is great.

"The figures furnished by (a), and expressed by HCL, represent the total amount of chlorine contained in the stomach liquid.

"(b). After prolonged evaporation at 100° C. for an hour after the disappearance of all liquid, add an excess of carbonate of soda again; evaporate again, and proceed as before for the determination of the amount of chlorine present.

"The figures furnished by capsule (b) represent the total chlorine, less that which has been driven off by prolonged evaporation from the water bath, that is to say, less the free hydrochloric acid; a—b=free HCL.

"(c). After drying capsule (c) is calcined with care without the addition of soda.

"The figures obtained from (c) represent the amount of fixed chlorides, consequently b—c will give the amount of chlorine lost during the calcination of the residue of capsule (c), that is to say, the combined chlorine."

It is impossible for the organic acid to interfere with this analysis, because these acids do not unite with chlorine forming chlorides, consequently cannot be estimated by this method.

Determine the organic acids present in the fluids by themselves, and not allow them to mask any of the HCL and chlorine estimations. Color reactions are fallacious to a cer-

tain degree in spite of the best that may be said for them. I know this from hard experience.

By this careful determination of the free HCL and its chlorine combinations, results little below those of Knapp and Topfer's methods are obtained, the difference in pathological conditions representing acid fermentation. The work is tedious, but are not the results worth the labor? Are not the important questions to have answered by the analysis of the test meal as to the HCL properties those of, first, how much HCL is present; second, the amount of chlorine combination; third, the relations of these chlorine combinations?

PROTEOLYSIS.

We have now to consider the factors that influence or facilitate the mixture of the gastric juice secreted with the stomach contents. The estimations referred to not only determine the working capacity of the gastric juice, but also represent the degree of its diffusion throughout the food mass. Having determined the best methods for the estimation of these active principles, we now turn to the factors influencing peristalsis.

It is obvious that the ferments of the juice can only attack the surfaces of the food particles, large or small. We know that this may be more readily accomplished the more complete the peristaltic action of the stomach walls. Cannon and Turck show that the chemical composition of the food does not influence peristalsis. Turck has applied acids and alkalies, varieties of food, such as starch, peptones, bouillon, etc., to the mucosa without influencing peristalsis in any way. The experiments of Marshall, a member of this society, in a paper read before this society a year ago, dealing with the influence of electricity upon the stomach and intestines, demonstrates that even this stimulus does not cause muscular contraction, much less peristalsis. Turck shows that by introducing a thin rubber bag into the stomach and inflating it, he immediately gets a peristalsis of the stomach walls. The same results may be obtained by simply inflating the stomach with air or water. Mendel presents the new explanation of gastric peristalsis.

"It now appears probable that there is a marked difference between the effects of the mechanical activities of the pyloric and the cardiac portions of the stomach. In the latter there is no marked peristalsis, and the food, held in the tonic grasp of the gastric musculature, shows no sign of movement; on the other hand, in the pyloric portion a vigorous peristalsis assures a thorough mixing of the food and secretion.

"Several features of practical importance arise from the facts just presented. In the first place, the acid reaction of the gastric contents develops only slowly in the fundus reservoir in the absence of marked triturating movements. The progress of gastric digestion may thus be delayed; but at the same time the continuance of salivary digestion in the stomach is provided for. It is well known that acids markedly inhibit the amylolytic action of saliva, the effective enzyme being promptly destroyed by a mere trace of free hydrochloric acid. Likewise the interval intervening before the reaction for free hydrochloric acid can be obtained in the stomach contents is known to be not inconsiderable, in some cases as much as three-quarters of an hour elapsing. Trials made by Cannon and Day on cats and dogs from one to one and a half hours after feeding showed that 'the contents of the pyloric end were invariably strongly acid, but the internal mass in the cardiac end remained unchanged in its reaction. Inasmuch as salivary digestion may continue so long as free acid is absent, the conclusion was drawn that salivary digestion might proceed in the fundus for an

hour and a half or longer without interference by the acid gastric juice.' These observations have been confirmed in various ways. Later, when the contents of the fundus become more thoroughly mixed, proteolysis begins more vigorously."

It is obviously the distension of the stomach walls, produced by the food bulk, and the tension produced by its weight, that causes the rythmical contraction of its muscular walls in normal digestion. These contractions are continuous throughout the entire time of digestion (Cannon), whether the pyloric door be open or shut. This muscular activity does not cease until the organ is empty, or the muscles themselves exhausted.

The above considerations speak for themselves in favor of the test meal or otherwise, whether it be physiological data or method of analysis considered. I have not by any means exhausted the tests that may be made for various substances contained in the stomach fluid. I have only tried to set before you the distinctive features for consideration, in the examination of these fluids, and the best methods of analyses.

The remainder of this paper, what we would like to learn from its examination, will have to be taken up at another time.

SYPHILIS AND PROPHYLAXIS.*

By Dr. F. K. Jackson, Burlington, Vt.

It is with some diffidence that I address this learned body on a subject in which they have had so much more experience than I; and it is with the intention rather of eliciting a discussion upon a momentous topic than of giving any new ideas on the subject that I have undertaken this paper. Consequently if interest can be aroused in regard to a very important branch of preventive medicine, it will more than repay any small outlays of time and thought herein contained.

Definition.—Syphilis may be defined as an infectious, contagious disease, transmissible also by heredity. Its development is heralded by the appearance of the indurated chancre at the site of inoculation. This is followed in turn by an enlargement of all lymphatics; a cutaneous eruption usually symmetrical and a similar condition of the mucous membrane; an infiltration of the cellular tissues, bones and periosteum; and finally by a series of swellings or gummata of variable size which may appear in any part of the body.

Morbid Anatomy.—The distribution of the diverse lesions of this disease in its various stages is so general as to preclude even a catalogue of the organs affected. No system and in fact no organ of the body is immune to the ravages of this disease. The cutaneous surface, the alimentary tract, the osseous system, the genital and urinary systems, the respiratory tract, the circulatory apparatus and the glandular tissues are all subject to some form or other of syphilitic lesion or degeneration.

Etiology.—So far minute study of the material known to contain the infectious agent has given no information. Organisms have not been constantly found in the scrapings and juices of chancres and other lesions. The idea has been advanced that the virus might be filterable like that of yellow fever or the foot and mouth disease of cattle. But experiments have shown that the cause of syphilis does not pass through filters that allow of passage of certain other minute organisms holding back certain other known organisms. Experiments are now going forward upon apes and monkeys which it is hoped may throw some light upon the obscurity as to the direct cause of syphilis. The disease seems to be usually

*Read at a meeting of the Burlington and Chittenden Co. Med. Soc.

acquired by contact of some abrasion on the surface of the victim directly or indirectly with the virulent product of some syphilitic lesion, usually a chancre or mucous patch. The site of inoculation is usually the genitals, but may be the fingers, lips or face. Immunity against fresh infection is gained from the very first. This may even be gained by those who never pass through its stages, as in the case of Colles's or Profeta's immunity.

By Colles's immunity is meant that shown by healthy mothers who have borne syphilitic children of syphilitic fathers. This is explained as due to the tissue products of the virus being diffused through the placental circulation into the maternal. This circumstance has given rise to great expectations of the benefit to be derived from serum treatment,—expectations which to the bitter disappointment of many have as yet failed of realization.

Profeta's immunity is that possessed by children of syphilitic parents. In some cases of this sort the children are healthy in all respects, but seem proof against syphilis. This immunity is also due to the entrance of the tissue products of the virus, and not the virus itself, into the circulation.

Symptomatology—After a decidedly variable lapse of time from the inoculation—three weeks on the average and usually between two and four—there appears upon the exposed surface the primary lesion. This interval is called the period of primary incubation, and the lesion the chancre. It begins as a superficial fissure, or excoriation or papule and gradually increases in size. Accompanying this there is an induration,sometimes a hard fibrous nodule, sometimes a thin plate, like parchment. This hardening is due to a thickening of the walls of the blood vessels (both arteries and veins) of the part. The chancre is generally described as cup shaped. Ulceration may be present and in this case the surface is smooth. At the centre of the chancre is a false membrane which if removed causes bleeding from the underlying tissues which are highly vascular. Almost simultaneously with the occurrence of induration (about a week after the appearance of the chancre) there is noted an enlargement of the neighboring glands. About six weeks after the enlargement of the near-by glands, the first of the secondary symptoms appear—or we might better say the precursors of the secondary symptoms. These are usually a swelling of all the glands of the body—a general adenitis. At about the same time we have a triplet of symptoms appearing as follows:

1. Moderate fever 100°-101° coming on towards night and accompanied by malaise.
2. Muscular and articular pains, especially of the chest, back and upper extremities.
3. Alopecia—not confined to the scalp.

The secondary stage proper very soon follows with its eruptions—cutaneous and mucous—the so-called syphilides. These are superficial when recent and become deeper with the passing time. The syhilides may present at the same time macules, papules and pustules. Syphilitic papules become mucous patches wherever there is warmth, moisture or friction as on mucous membrane, or at the junction of mucous membranes with the skin or in the cutaneous folds or creases. The area is greater than that of the papule; their characteristic grayish color is seen upon the mucous membrane. A smooth red surface is seen if upon the skin. The secretion from the patches is offensive, copious, and very contagious. The most common seats of the mucous patches are upon the genitals or in the region of the arms. In women the vulva, in men the scrotum and arms are the most common seats.

Tertiary lesions of mucous membrane are much deeper than the secondary and more prone to ulcerate through less apt to extend laterally. The most common seats of mucous

tertiary lesions are the tongue, soft palate and pharynx. Other tertiary lesions are osteitis periostitis, tubercular syphilides and ulcers and gummata. These lesions are painless at their inception, but may become painful as they progress. In osteo-periostitis we find pain and swelling the prominent symptoms. This pain is peculiar in that it is often more pronounced at night when it may be very acute. The bones most commonly involved are those situated subcutaneously. These bone symptoms may at times be entirely relieved by a very few days' treatment.

On account of its double function, as periosteum and brain covering, inflammation of the dura mater is both frequent and important. The encephalon may also be the frequent seat of gummata, which are in this location frequently fatal.

The Course and Duration of this disease have already been described more or less fully. The tertiary lesions are very variable; they may appear anywhere from two to four years after the secondary, and are often so vague as to be quite perplexing to the physician. Probably many tertiary symptoms are never properly diagnosed. Or we may have entire absence of tertiary lesions, depending somewhat on the vigor of treatment and on the constitution of the patient.

Cases have been recorded of so-called acute syphilis which ran a complete course with primary, secondary and tertiary lesions in two to three months, always resulting fatally. This is most apt to occur in the negro race which some one has said was syphilized at the same time it was civilized.

Differential Diagnosis—Fournier the eminent French Syphilographer once made a positive diagnosis of chancre; and it being a legal case was almost ready to testify to it in court, but as he made it a rule never to testify before the appearance of constitutional symptoms, he was saved from a mortifying error. The enlarged glands soon disappeared and secondary symptoms never occurred. Therefore we may well hesitate before making an early positive diagnosis between chancre and chancroid. A few points only on diagnosis will be mentioned here.

Chancre.	*Chancroid.*
Incubation—Not less than 10 days.	Less.
Begins as erosion, papule or ulcer.	Pustule or ulcer.
Number—Seldom multiple.	Often multiple.
Surface—Smooth shining, red or gray.	Round, warty, gray.
Secretion—Scanty, serous.	Profuse, Purulent.
Induration—Seldom absent.	Seldom present.
Pain—Slight or absent.	Painful.
Little destruction of tissue.	Ulcerates, loss of substance.
Bubo—Constant, painless, multiple.	In 33%, painful.

Secondary—Syphilides are always polymorphous at first, i. e., macules, papules and pustules are seen simultaneously. Papules in folds of skin become mucous patches. In the palms, the epidermis being thick, they are very noticeable and often scaly. The syphilides are said to have a distinctive color like copper or raw ham. Syphilides are always regularly rounded in shape. The absence of itching is an important characteristic of the syphilide. The neighboring lymphatics are usually involved.

The mucous patches are formed upon a papule, their surface is oozing, and is saturated or desquamated, resembling moistened tissue paper. The history of the case and other symptoms will confirm the diagnosis.

The tertiary symptoms are so numerous and varied as to make even a partial differentiation here impossible.

Prognosis—In chancre usually favorable as regards the chancre itself although phagedena occasionally occurs.

As regards secondary symptoms the prognosis is usually good if treatment is carefully carried out.

If tertiary symptoms appear the outcome is more doubtful, and the course often severe; though with vigorous treatment gummata may

disappear with surprising rapidity. In the case of syphilis of the brain and cord the prognosis is often very grave; in the former case as regards life; in the latter as to ultimate cure.

Treatment—Chancre may be treated by excision if located upon the skin; if excision is inconvenient, by cauterization with fuming nitric acid. If seen late after enlargement of the neighboring glands these methods are absolutely useless as the lesion can no longer be a local one.

Constitutional treatment cannot be advocated before a positive diagnosis can be made—i. e. not before the general enlargement of all lymphatics or the other constitutional symptoms appear. An exception to this rule is the case where by confrontation with the undoubted source of infection the diagnosis can earlier be made positive.

There is perhaps no disease whose treatment is so universally uniform as this. No other drug seems to have the beneficial effect of mercury upon this disease in its second stage. The same may be said of the iodides with mercury in the later stages.

Various are the forms of mercury and diverse the methods of administration which have from time to time been advocated. Of late the hypodermic method of administration is much affected by those who wish to be regarded quite up to date. The preponderance of opinion seems to be that when the drug is administered in full doses short of toxic effects it matters little by what path it enters the economy, the beneficial effects are identical.

After the mercurials have been administered in some of these ways for about two years the mixed treatment should be begun by the addition of iodides, and continued for six months after the last visible manifestations of the disease. At the end of this time treatment may be discontinued if patient is kept under observation a year. If at the end of this time no further symptoms appear he may be considered cured.

Propylaxis—Owing to the extensive distribution of the disease and its growing prevalence among all classes; and because of its loathsome and repulsive character and the lack of recognition of many of its obscure and remote manifestations, it would seem to call for a more vigorous policy of repression than the present precautions which, in spite of the taking instructions, must vary widely according to the caprice of the individual patient.

We are reading daily in the press and current literature column after column in regard to the dangers of the somewhat fancifully named "Great White Plague." And I would not be understood as decrying the work of those especially interested along this line of preventive medicine. The subject is an important one, and there should be education of the public in this direction. But if some improvement can be made in methods of prevention of tuberculosis, there is room for much improvement in the management of syphilis.

In the first place the public must be educated as to the general nature of the disease and the dangers of its propagation. The method of this education is open to discussion. The daily press would by many be considered an unfit medium for the dissemination of even so desirable a knowledge as this. The pulpit is not to be considered even in this day of advanced educational religion. Addresses before the Y. M. C. A. are desirable as far as they go.

But how are we to reach the masses? The rising generation is in school, and it is the rising generation we would reach. Hence, I answer, addresses must be made in the schools, especially in the higher grades of the grammar school. The man to make these is the

man who is in a position to realize their importance, namely the physician. I might add the health officer.

Syphilis is said to be rare among the Hebrews. This is accounted for by the compulsory circumcision which might be advocated as a preventive.

By far the commonest mode of infection is the prostitute, and the question rises—Shall we repress the prostitute? In the light of previous attempts we may answer this seems impracticable. If they cannot be repressed, can they be regulated or controlled?

Dr. Heidingsfeld of Cincinnati has discussed this question in an able paper read before his State society. He answers by quoting figures showing a progressive increase in venereal disease during the four years elapsed since the system of control has been inaugurated. He concludes: "Control with periodic examination gives the laity a false sense of security. This (sense of security) is responsible probably for the increase in disease. Not only this, but many prostitutes once openly known as such, conceal themselves, as far as possible, to avoid the rigorous regulations of the control system. In this way the more dangerous clandestine class remains practically undiminished or even increased." It would seem, then, that the prostitute must exist as long as men's passions seem to demand them,—the supply here as elsewhere depending upon the demand.

Many are deterred from leaving the path of purity from a fear of conception and subsequent blackmail or publicity. This wholesome dread has been partly overcome by some in our profession (I will not say of it) who practice abortion in all its forms,—and this in a more or less public manner, so that they have obtained a reputation as such. This practice should be rigorously suppressed by the legal representative who should be in the pay of every medical society.

At the root of the whole matter lies our modern love of luxury and departure from the simple life. We must be dressed as well as our associates or perhaps a little better. Girls must be clad in the finest raiment, must have an unlimited supply of sweets, must enjoy all the luxuries of the table, must frequently attend and give costly receptions. In short all are expected to live up to or a little above their incomes on pain of being considered parsimonious. For these reasons the young people of our day are seldom able to marry until youth is about gone; or perhaps they may decide on the single life. If they have no homes, how can the home virtue be acquired? I would advocate then the simple life and early marriage as prime incentives to social purity.

Now as to the person who is already seized and who can without effort and even without carelessness contribute to the spread of the disease. In diphtheria we quarantine the patient to prevent the spread. Wouldn't some such measure be good practice in the case of syphilis? The principal objections would be the stigma of publicity cast upon the patient, and the difficulty of maintaining a quarantine which might be prolonged indefinitely. These objections should not be allowed to interfere with the policy of seeking the greatest good of the greatest number.

Socety must be protected from those members who are known to be dangerous. For no other reason our State's prison is occupied; our workhouse is full. But you say these inmates are those who have actively and wilfully done harm to society. Granted. Then look at Waterbury and Brattleboro. There we have a class of people who without malice have harmed or are merely liable to harm society. Where is the difference between these and the

syphilitic—save that the latter has usually knowingly done a harm?

The poor leper who has acquired the disease through no fault of his own is sent off by himself.

I would advocate then the isolation or segregation of all cases of syphilis. It should be made the duty of every physician to report at its inception each case of this sort that he is called upon to treat. The report should be made direct to the superintendent of the State hospital especially set apart for the accommodation of such patients. The patient should be sent, if necessary taken, to the institution there to remain until, in the judgment of the physician in charge, he again safely could be set at large. After release he should put himself again under observation by his family physician.

To recapitulate, then, I would recommend the following measures:

1. The general adoption of circumcision.
2. The education of the public.
3. The simple life and early marriage.
4. The rigid repression of abortionists.
5. Especially the isolation or segregation of the syphilitic.

SYMPTOMS AND DIAGNOSIS OF CROUPOUS OR LOBOR PNEUMONIA.

By Dr. C. W. Phillips, Arlington, Vt.

The incubation period is not definitely known but is supposed to be very short. The disease is usually, but not invariably ushered in by a chill and is quite severe. The temperature begins to rise immediately and reaches 103° to 104° in a short time. In a few hours after the chill the patient complains of pain in the side accompanied by a short dry cough and increased respirations. On the second or third day we get the complete picture—patient lying flat in bed often on the affected side, face flushed, eyes bright, expression anxious and there may or may not be herpes about the lips and nose. The expectoration is tenacious and usually blood tinged. The temperature is high and pulse full and bounding.

Digestive Symptoms.—The tongue is white and furred and in severe cases becomes rapidly dry. The appetite is lost and constipation is more common than diarrhea, accompanied often with meteorism. The spleen is enlarged and the liver may be depressed by large right lung or engorged right heart producing jaundice.

Urine.—A trace of albumen is common. Urea and uric acid are increased with a diminution of the chlorides.

THE PHYSICAL SIGNS.

Inspection.—Increased motion of the unaffected side and action of the accessory muscles of respiration.

Palpation.—After consolidation the vocal fremitus of affected side is increased. Friction fremitus may also be felt.

Percussion.—In the first stage the note may be high pitched but usually there is marked dullness over the area.

Oscultation.—In early stages breath sounds may be weak and the crepitant rale is heard at the end of inspiration. As engorgement merges into consolidation the sounds become broncovesicular and finally the typical bronchial. During second stage, friction sounds may be heard and in the third stage moist crepitations mixed later with moist rales.

Diagnosis.—This is made from the sputa, physical signs and external characteristics. In children mistaken diagnosis may occur. The cerebral symptoms may be so marked as to be mistaken for meningitis. In pleurisy with effusion the breathing may be tubular and tactile fremitus present. The aspirating needle may be required to definitely settle the question.

In the so-called pneumo-typhus the differential diagnosis is sometimes impossible unless you get the typical eruption of typhoid or the Widal reaction.

BRONCHO PNEUMONIA.

Symptoms.—The primary form is ushered in with a chill of convulsion. The temperature rises rapidly and is quite constant. The physical signs are more local and the termination of this form is often by crisis.

The secondary form often follows measles, whooping cough and diphtheria. It starts as a bronchitis of the smaller tubes, the onset being gradual. In the course of from twenty-four to forty-eight hours the fever begins and is variable from 100° to 120°. The cough is hard and painful; expectoration bloody; dyspnea extreme followed by cyanosis.

Physical Signs.—On percussion you get dullness with intervening areas of healthy tissue, giving a tympannetic note.

Oscultation.—Vesiculo-bronchial breathing changing to moist bronchial with small bubbling rales. As resolution takes place the rales become large, bubbling and more numerous.

Diagnosis.—This is made from the symptoms, such as fever, which may be remittent; distressing cough, and later, extreme dyspnea with rapid respirations and bilateral, fine or subcrepitant rales, with or without evidence of moderate or patchy consolidation.

The differential diagnosis is from lobar pneumonia given in the following chart.

BRONCHO.	LOBAR.
Young and old.	Young adults.
Onset gradual.	Onset sudden.
Secondary disease, usually.	Primary disease.
Bilateral.	Unilateral.
Fever not high, ending by lysis.	Fever high, ending by crisis.
Sputa bloody, tenacious.	Sputa rusty.
Cyanosis early and marked.	Cyanosis not marked.
Signs or bronchitis.	Signs of consolidation.
Course protracted and indefinite.	Course short and definite.

Acute Tuberculosis.—The onset is characterized by a capillary bronchitis. The differential diagnosis is made by the history and course of the disease and the presence of tubercle bacilli.

Bronchial Catarrh.—This differs from catarrhal pneumonia by the subsequent history, absence of dyspnea, fever, and dullness on percussion and the presence of large bubbling rales.

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NEWS, NOTES AND ANNOUNCEMENTS.

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BURLINGTON AND CHITTENDEN COUNTY CLINICAL SOCIETY—The regular meeting will be held at 162 College Street, Thursday, April 27, 1905, at 8:30 P. M. The following programme has been arranged: Hysteria, Dr. D. A. Shirres, Montreal. Discussion opened by Dr. W. D. Berry. Refreshments will be served after adjournment.

With the prescription all is obscurity; the pharmacist may mistake, the doctor order and wait; meanwhile the patient dies.—*Bourdieu.*

Caffeine prevents sleep; but when subjected to oxidation is converted from a stimulant into a narcotic substance.—*Brunton.*

Insomnia from overtire was relieved by nux enough to bring the patient up to being simply tired.—*Brunton.*

When paralytics take strychnine the twitchings that mark the beginning of physiologic action are stronger in the paralyzed parts.

In strychnine poisoning paralyze reflexes first with chloroform or chloral before introducing the stomach tube.—*Brunton.*

The Burlington City Council has appointed a commission of two medical men and a layman to investigate and consider means for correcting the city's polluted water supply.

We may induce sleep by lessening the flow of blood to the brain or by lessening functional activity of brain-cells.—*Brunton.*

Dilatation of cutaneous capillaries or abdominal vascular areas induce relative cerebral anemia and favor sleep.—*Brunton.*

Other drugs induce sleep if no powerful stimulus keeps brain-cells active; but morphine compels sleep.—*Brunton.*

The beautiful building of the University of Vermont Medical Department is approaching completion and it will be ready for occupancy by Commencement.

THE PROPHYLAXIS OF VENEREAL DISEASES.—Prince A. Morrow, New York City (*Journal A. M. A.,* March 4), thinks that the extent of venereal diseases in married life is far greater than is commonly supposed. The chief social danger comes from the destructive effects on the health and on the productive energy of the family. Regulation of prostitution according to the European methods he considers practically ineffective, as it applies only to one sex. We might as well attempt to prevent the importation of plague by excluding only the infected women. The method of prophylaxis in which he puts the most confidence is education, both of youths and of the public generally. The public conscience must be awakened. The present indifference, based on ignorance, and the popular notion that these diseases are simply consequences of vice, must be done away with. In his opinion, a special society, including in its membership educators, clergy, jurists and sociologists, as well as medical men and public-spirited individuals generally, should undertake this work. It should be a permanent organization, exerting a continuous active force against this prevalent evil. He believes that with organized and intelligent effort many of the apparently insurmountable difficulties of this question eventually may be overcome.

GONORRHEA AS A CAUSE OF DEATH.—Joseph Taber Johnson, Washington, D. C. (*Journal A. M. A.,* March 11), reviews the opinions of authorities as to the effects of gonorrhea in producing female sterility and disease, and states his belief that if the mortality from this cause could be ascertained it would be found to equal that from either typhoid fever, pneumonia or tuberculosis, and that possibly it might be found to exceed the mortality from all three diseases. He thinks that gonorrhea is the cause of at least 30 per cent. of the deaths among prostitutes, and that through its later effects on the generative organs it may be the cause of death in a very large number of virtuous married women.

NO MORE POULTICING IN THE U. S. ARMY.—In a recent notification by the Surgeon General of the U. S. Army, it is asserted that all the good results from poultices can be obtained in a more cleanly way by the use of wet hot compresses. Hence the order to the army surgeons to drop linseed and linseed meal from army medical requisitions.—*Virginia Medical Semi-Monthly.*

We highly approve of this order as far as discarding poultices made of putrescible and bacteria-breeding materials is concerned, for that is what has been done by all up-to-date physicians in private practice, but we can hardly recommend the substitute offered. We supposed that every one in this enlightened age was using Antiphlogistine in all such cases because of its advantages over everything else in permanency, efficiency and cleanliness. Compare Antiphlogistine, renewed but once a day, with hot compresses renewed every twenty minutes and we cannot imagine any one using compresses when Antiphlogistine is available.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., April 25, 1905.

EDITORIAL.

The Proposed Official List of "New and Non-Official Remedies."

The proposed plan of the American Medical Association to publish a list of preparations, proprietary and otherwise, under the general title of "New and Non-Official Remedies is creating a great deal of interest in medical circles. The idea is to separate the sheep from the goats, as it were, by establishing a standard, defined by certain arbitrary rules, to which all ethical and therefore recognized remedies must conform.

Now, this plan to settle a seemingly vexatious question, is unquestionably honest in its inception and laudable in its efforts, but to us there is a probability that it is ill advised and unnecessary. Right here we want to say that these remarks are not promulgated in a spirit of antagonism nor unfriendliness. We honor and respect the great body known as the American Medical Association, and the men who have made it what it is. We realize the influence it has had on American Medical affairs and all that it stands for in progressive medicine. Indeed the writer of these words is a member of the Association and has derived much pleasure and profit from his affiliation.

But an honest difference of opinion is every one's right, and its expression oftentimes means far more in the way of friendship and loyalty than blind concurrence.

Consequently we would like to have what follows considered as free from all rancor and ill feeling, and as a simple expression of different ideas and opinions.

Candidly, we are not in sympathy with the establishment of "a Council of Pharmacy and Chemistry," whose duties are to pass on the ethical standing and value of American drug products and publish their opinions broadcast.

Our first objection is on the ground that the outlined plan is an assumption of authority which the American Medical Association does not legally possess and which rightfully is vested only in the National or State Governments. If the American Medical Association wishes to analyze and examine proprietary remedies for the purpose of admitting or prohibiting the advertisement of such remedies in its Journal, all well and good. The representative journal of the American medical professon, if it carries advertisements at all, should assuredly carry none but those absolutely unimpeachable. But when the American Medical Association makes analyses and examinations of proprietary products and as a result thereof, publicly approves of any drug or remedy by including it in a public list, or *in an equally public way discredits some other preparation by omitting it from such a list,* it clearly oversteps its authority, and renders itself liable not only for the assumption of rights which it does not possess, but also for damages it may inflict.

There can be no doubt that pure food laws are proper and should extend to drug products. Everything possible should be done to eliminate fraud, but the

remedy, prohibitive as well as punitive, is a distinct privilege of government through its legally constituted courts of law. No individual, society, or corporate body has jurisdiction in the matter of fraud and therefore can in no sense administer prohibitive or punitive measures to correct the same. This is just what the American Medical Association contemplates, however, in its proposed publication of a list of "New and Non-Official Remedies," inasmuch as such list is proclaimed to "supply necessary and desirable information *concerning those which it considers unobjectionable.*" In other words, failure to mention a drug or proprietary remedy in the above list is equivalent to terming it objectionable, and recommending its non-use. Practically, from the proposed plan the American Medical Association will say to the American medical profession, "here is a list of ethical, honest and unobjectionable remedies whose use we recommend; *those omitted are either inethical, dishonest or objectionable and should not be used.*"

What will be the result?

Probably libel and damage suits galore, and unless the Council of Pharmacy and Chemistry can prove that omitted remedies are fraudulent in character or actually dangerous in marketable form, embarrassing conditions will certainly arise. Courts of law do not recognize the code of medical ethics and the mere fact that a drug product is secret, inethical, advertised to the public, or names diseases on its label for which it is indicated, will certainly be held inadequate to justify the injury to its sale that will certainly result from the proposed public ban of the American Medical Association.

The point we wish to emphasize therefore is that the American Medical Association has no rights in the correction of existing evils in regard to proprietaries other than as any other individual through recourse to law and a proper presentation of facts. Proof of fraud in the possession of the Council will justify its proposed action but will not relieve it from the necessity of defending such action in courts of law. Of still greater importance is the probable fact that ethical reasons will be held untenable as grounds for the proposed boycott of remedies *not actually fraudulent,* and members of the Council will be rendered liable for damages resulting therefrom. Altogether it looks as though the project as outlined will meet with legal difficulties if persisted in, and we sincerely hope that those interested will so modify or change the plans as to avoid unpleasant and embarrassing entanglements.

As a second objection we do not believe that the benefits to be derived from the proposed list of unobjectionable "New and Non-Official Remedies" will justify the labor, cost and dangers of litigation. Those unfortunate physicians who rely *entirely* on ready made preparations and who dispense the same with indifference or ignorance, are not going to be benefited by the publication of an official guide, however complete or thorough. Then again the widespread use of pharmaceutical preparations, secret or otherwise, shows that there is a legitimate demand for the same, and we are inclined to believe that on the whole the danger from them is magnified, and much less harm comes from their use than would result from a general return to a more extensive and (certainly, under present conditions,) ignorant use of the extemporaneous prescription.

To be sure, routine prescribing cannot be too highly condemned. Intelligent and progressive physicians do not list their remedies with diseases. Instead of treating diseases they treat their patients, and in paying due attention to hereditary and environal factors in each individual case, neglect nothing in regard

to diet, habits and personal hygiene. In reality drugs and medicines form a small part of the treatment administered by such physicians, but if they do wish to use a proprietary remedy, they come pretty near knowing what it represents, why they use it, and what action it will have. Reputable manufacturers are always willing to supply all information necessary for the wisest use of their products; it is for their best interests to do so, and we have met very few manufacturing pharmacists who have not been perfectly willing to give ample information concerning any remedy for which they were soliciting the patronage of the medical profession.

Therefore we maintain that the list proposed by the American Medical Association will fail to aid those who need it most because they will not have sufficient interest nor intelligence to use it, while those who will use it, do not need it. In our opinion the American Medical Association has a field of far greater usefulness. That field is in raising the standard of medical education and medical knowledge, in fostering every good thing in American medicine that will elevate our science, and in showing us how to become better physicians and surgeons. Evils will be found all along the line but the American Medical Association can combat and defeat them best by educative rather than coercive measures. Let the American Medical Association aim to develop the mentality of American practitioners and students of medicine by perfecting our organization for successful study and research, by teaching the highest ideals in medical practice, and by stimulating the scientific ambitions of our members. Then *it will not be necessary to tell the American physician what he should or should not prescribe and use in his practice*—he will know it himself without being told. His scientific training, associations and knowledge will all enable him to separate the good from the bad and he will need no outside help in forming his conclusions.

In conclusion, we wish to reiterate that there is no animosity in what we have written. It is the result of sincere and honest convictions, and while we are obviously opposed to the methods planned, we wish it understood that we are not criticising motives. We earnestly feel that the American Medical Association has too great a name and too bright a future to have its usefulness jeopardized by policies which augur useless and embarrassing entanglements and discussions. If our humble opinion serves ever so little as a note of warning we shall feel that we have justified our friendship and our interest in an institution which we know possesses unusual possibilities for good.

MEDICAL ABSTRACTS.

THE THERAPEUTIC USE OF FLUORESCENCE IN THE HUMAN ORGANISM.—W. J. Morton, New York City (*Journal A. M. A.*, March —), discusses the production of fluorescence in the tissues of the human organism by use of fluorescing solutions, electricity, etc. He holds that it is a sort of phototherapy dependent on the same principles for its curative effects. The method includes filling cavities with fluorescent solutions as well as using these latter medicinally. It produces effects by the fluorescent excitation of the absorbed drugs, not due to the X-ray or to radium, but probably to the fluorescent light. What the latter lacks in intensity is compensated for by its propinquity to the tissue. It is also possible by this method to improve skiagraphic effects and fluoroscopic examinations. It has proved of value in determining the position and size of the stomach and other cavities of the body. By this means the thoracic cavity is illuminated on the fluoroscope far more than it can

be by the X-ray alone. Morton has found it therapeutically useful in pulmonary tuberculosis, as well as in local tuberculosis elsewhere, and especially in cancer, of which two successful cases are reported.

Pus Tubes in the Male.—According to W. T. Belfield, Chicago (*Journal A. M. A.*, April —), due attention is not often enough given to the fact that the genital duct proper in the male—including the seminal vesicle, the vas deferens and the epididymis—is as liable to suppuration as the urethra. The pus infections of these parts present a close but neglected analogy with the familiar infections of the fallopian tubes, and he draws from this the practical conclusion that the rational treatment should often be surgical. The acute hydrocele and scrotal edema often accompanying epididymitis are, he says, infallible signs of suppuration, and incision is followed by relief of pain and swelling, even if no pus escapes. The pus may in some cases burrow from the vas into the urethra, and thus produce the familiar phenomenon of relief of the epididymitis with increased urethral discharge. A gleet may also be kept up by epididymal suppuration, and incision be required for its cure. Chronic suppuration with pain may also require surgical treatment, and destruction of the testis by extension of the disease be also thus averted. In acute or chronic pus infection, the lower end or tail of the epididymis presents the chief swelling, and here the incision should usually be made. Simple puncture may sometimes suffice, but a half inch or more incision with stitching the edges of the pus cavity to the skin and drainage is usually the better way. In a few cases Belfield adopted a novel method, namely, injections into the vas deferens and seminal vesicle, through a needle introduced into the vas just above the epididymis. The therapeutic value of such injections is not yet fully decided, but Belfield considers it a practical method, and so far, the only one by which we can directly medicate the male genital tube.

Hyoscyamine in Nervous Insomnia and in Tremors.—It is demonstrated that hyoscyamine, which acts upon the great sympathetic, is the most efficacious against tremors. Convulsive neuroses and congestive affections of the cord and brain are markedly sedated by it. Its action is felt on the central nervous system when there is in it a material or functional alteration, as in locomotor ataxia, in delirium tremens, chorea and paralysis agitans. In most cases of that kind, hyoscyamine, when methodically employed, gives the best results. In all affections which depend upon a congestive state of the nervous centers, the physician will find this remedy, if not perfectly curative of them all, yet far more than merely palliative. In paralysis agitans hyoscyamine calmed decidedly the pains of the neck, diminished the salivation, markedly reduced the tremors and gave sleep. When the remedy was interrupted the symptoms of the affection were not tardy in returning.—*Alkaloidal Clinic.*

Urine Examination.--R. C. Cabot, Boston, (*Journal A. M. A.*, March 18-25), states that incited by a statement of Councilman that the chemical and microscopic examination of the urine failed to give certain information of the character of the renal lesions, as well as by discrepancies coming under his own observation, he has compared critically the records and postmortem findings in the cases that have come to autopsy in the Massachusetts General Hospital since 1893. Although the number of cases is not large, he thinks they warrant the

following conclusions: 1. Many cases of acute glomerular nephritis occur that are unrecognized by any known methods of examination. 2. The diagnosis is at fault in some cases of subacute and chronic glomerular nephritis, but in the great majority of cases the condition of the urine, taken in connection with other symptoms, foretold the autopsy findings. 3 In chronic interstitial nephritis the diagnostic resources appear to be neither so sufficient as in the chronic glomerular form, nor so inadequate as in the acute glomerular nephritis. In about a third of the cases the diagnosis was correctly made before death. 4. Among other conditions mistaken for nephritis by too much reliance on the urinary findings are senile and arteriosclerotic condition, mistaken for chronic nephritis, while in conditions involving passive congestion or acute kidney degenerations, the urine occasionally simulates that of acute nephritis. Even where no lesions are found at autopsy the urine is sometimes highly albuminous and full of casts. 5. In ordinary urinary examinations the common errors are: (a) The attempts to estimate urea without accurate knowledge of the patient's metabolism. (b) Stating that renal cells are present when all that is seen are small mononuclear cells, perhaps from the kidney tubules, perhaps not. 6. Cryoscopy and other attempts to test the renal permeability more directly are not yet capable of supplementing in clinical work the older methods of examination. Cabot holds that the vast majority of estimations of urinary solids, including urea, are a waste of time, since they are not and can not be made part of a general metabolism experiment, and that the attempt to estimate the anatomic condition of the kidney by measuring albumin and by searching for casts is fallacious. The most reliable data are the twenty-four-hour quantity, the specific gravity and the color.

Hyoscine Poisoning.—From England we receive note of a case of hyoscine poisoning. The physician ordered this remedy in doses of gr. 1-200 at bedtime; but the druggist reading gram for grain, put up 15 times the desired dose. Deep coma ensued; strychnine was properly given but weakened by brandy thrown in the rectum. Then the physician seems to have been bewildered for he injected morphine, and caffeine to antagonize it, hypodermically. Naturally, there was "little or no improvement." Then the stomach was uselessly washed out, and strong coffee administered in full doses—a lucid interval evidently having taken the doctor. Improvement ensued in an hour, with recovery eleven hours after taking the hyoscine. The patient was 69 years of age.

The reporter very properly calls attention to the danger of the conjoint use of the two systems of weights, metric and apothecaries, and urges that the former be used exclusively. (We have just received a letter in which the writer quotes the Bible to show that the metric system originated with the devil and its use is impious.) But a more important deduction from this case is that the doctor should comprehend the action of the medicines he presumes to administer, and the proper antidotes for overdoses. Moreover, had he administered his hyoscine by the intensive method, gr. 1-1,000 every five to fifteen minutes till effect, he would not have had the smallest possibility of such a dangerous accident. When people employ alkaloids let them do so in the way experience has shown to be most desirable.

When quinine is taken undissolved very little of it is utilized, especially in fevers where there is little secretion of acid.—*Brunton.*

Drugs unabsorbed are as much outside the body when in the bowels as they would be in the palm of the hand.—*Brunton.*

Drugs that prevent sick-headache fail to relieve it, because they are not absorbed after it has commenced.—*Brunton.*

Metals probably combine with blood-albumen; alkaloids probably remain simply dissolved in the serum.—*Brunton.*

Elimination of sulphide is so rapid by the lungs that it requires very frequent doses rather than large ones, to give effect.

Little is known of poisons formed in the body, their excretion and reabsorption; but cathartics relieve malaise. Why?—*Brunton.*

STRAY THOUGHTS.

Rich Without Money.—I ought not to allow any man, because he has broad lands, to feel that he is rich in my presence. I ought to make him feel than I can do without his riches, that I cannot be bought,—neither by comfort, neither by pride,—and although I be utterly penniless, and receiving bread from him, that he is the poor man beside me.—*Emerson.*

Plus and Minus People.—We all know people who never add anything to our fun, our information, our happiness, or our comfort. They are always trying to get something from us without giving anything in return. They are sponges that absorb but give nothing back. When they leave us, we have a minus feeling, a consciousness of having lost something. On the other hand, we know people who always give more than they take from us; they are rsourceful, suggestive, helpful; everything increases under their touch, for they are not trying to see how much they can get, but, instead, to give us something. They are optimists; thy turn the best side of themselves to us, say pleasant things, and are helpful in their intercourse. They do not try to drain us dry; we have a plus feeling when they depart, a consciousness of having found something; they seem to leave a part of themselves with us. Like the rose, they bestow their fragrance and their beauty for us to think about after they are gone. Everybody loves the man or woman who leaves something behind,—a pleasant memory, a helpful suggestion, or kind word. Nobody cares for the absorbent people who get everything they can and give nothing.—*Success.*

BOOK REVIEWS.

A Text-Book of the Practice of Medicine. For Students and Practitioners.—By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium and of the Medical Society of London. Author of "A Text-Book of Practical Therapeutics," "A Text-Book of Practical Diagnosis," etc. Illustrated. Lea Brothers & Co., Philadelphia and New York, 1905.

It cannot be denied that Hare's Practice in its new edition is the leading single volume work on medicine in the English language. No other text-book embodies so much that is really essential and important in so readable yet concise form. Careful study of the book shows that it is remarkably complete and the portion devoted to treatment, as might be expected, is unusually valuable.

It is modern in every particular and without unnecessary detail gives all the important facts concerning each subject. The more it is used, the more one grows to appreciate its admirable qualities. We feel that it is one of the strong books of American medical literature and one that well typifies the high place that American medicine occupies.

It will unquestionably be found in the library of every progressive physician.

The Vermont Medical Monthly

THE LIBRARY ACADEMY OF MEDICINE

Vol. XI. May 25, 1905. No. 5.

ORIGINAL ARTICLES.

EXTRA UTERINE PREGNANCY.*

By P. E. McSweeney, M. D., Burlington.

Mr. President and Gentlemen of the Vermont State Medical Society:

I have chosen for my subject, extrauterine pregnancy or ectopic gestation, which means that the growth of the ovum takes place outside of the uterine cavity. The occurrence of extrauterine pregnancy is rare, some of the authors say one in five hundred pregnancies are outside of the uterus, while others say that it is as rare as one in ten thousand pregnancies.

Formal found in thirty-five hundred general autopsies, thirty-five ectopic pregnancies or one per cent. The first reported case was by an Arabian physician in the eleventh century. It is also said Nuffer, in fifteen hundred operated on his wife for extrauterine pregnancy. Merriceau in the sixteenth century was able to recognize and describe the symptoms of the disease and I believe wrote several essays on the subject. Lawson Tait and Bland Sutton have written extensively on the subject and Sutton formulates the rule "that all forms of extrauterine gestation pass their primary stage in the fallopian tube."

The number of reported cases have greatly increased in the past twenty years, which is no doubt due to our increased knowledge of gynaecology, and the abundant gynaecological material found in the large towns and cities, which come to the gynaecologist and abdominal surgeon in all the hospitals.

*Vice-president's address at the 91st annual meeting of the Vermont State Medical Society.

Many obscure cases which formerly baffled the physicians and died and were never diagnosed, were probably cases of ectopic gestation. The immediate operation in these obscure cases, to confirm the diagnosis, and the greater prevalence in cities, of gonorrhea, with all its harmful results to the fallopian tube, may account for this increase.

There are three varieties; Ovarian Pregnancy, Abdominal Pregnancy and Tubal Pregnancy. The sub-varieties, I will not mention.

The ovarian and abdominal pregnancies are rare, ovarian, less than five per cent., abdominal, about eight per cent. and tubal pregnancies about eighty-seven per cent. As ovarian and abdominal pregnancies are rare, I will only speak in this paper of the tubal variety.

The causes which produce tubal pregnancy are many. Anything which will interfere with the normal condition of the tube, such as loss of the celiated epithelium, spasms, paralysis or pressure from any cause which will close the lumen of the tube, thus preventing the ovum from reaching the uterus. This condition is most frequently caused by some form of salpingitis, usually, gonorrhea, which leaves the tube in a damaged condition, either bound down, twisted or doubled upon itself, thus preventing the normal peristalsis of the tube, whereby the celia are prevented from assisting the ovum in its passage to the uterus. All observers agree that extrauterine pregnancy, occurs most frequently in women who have given birth to children but have been sterile for some time or a long period has elapsed since the last pregnancy.

The ovum develops in some part of the tube, usually at the middle and outer third. In

all of the cases which I have seen, the patients did not know of this abnormal condition until the rupture had taken place, which was between the eighth and twelfth weeks of pregnancy. The rupture is sudden and comes without any warning. A very sharp pain radiates all over the abdomen, which becomes extremely sensitive to the slightest pressure. The patient may have severe hiccough, nausea and vomiting. The pulse varies from a hundred to one hundred and forty, is small, frequent and compressible, face deathly white, nose pinched, lips drawn, body and extremities, as a rule, covered with a cold, clammy perspiration. There may be syncope, but the patient's mind is clear to the last and will often assert that they do not feel badly. Only thirsty and complain that they cannot get sufficient air.

The symptoms preceding rupture are important, but the diagnosis is difficult. The patient has all the early signs of pregnancy, and menses reappear after one or two months, which lead the patient to believe that she is not pregnant, there may be shreds of broken down decidua in the discharge. The womb is slightly enlarged, a tender painful tumor is discovered by the side of the uterus in the region of the broad ligament, which grows rapidly and ruptures from the eighth to the twelfth week in tubal pregnancies.

The first operation after a definite diagnosis of an unruptured extrauterine pregnancy, was performed by Veit in Berlin, 1885.

Howard Kelley did a similar operation in Philadelphia on March 20, 1886. Modern treatment is summed up in the statement that every extrauterine pregnancy should have surgical interference as soon as the diagnosis is made. If the patient refuses an operation, then there are three methods of destroying the foetus. First, aspiration of the liquor amnii, second, injection of morphia into the amniotic sac. These two methods have been discarded. Third, by electricity, but this should never be used, if there are signs indicating rupture.

Treatment after rupture—Ceolitomy is here unquestionably the best method to pursue. In forty-two operations performed immediately after rupture by Mr. Lawson Tait, thirty-nine women were saved. Professor Hurst, of Philadelphia, had twenty-four consecutive cases without a death that could be ascribed to the operation itself. Lapthorne Smith reports twenty-eight consecutive cases without a single death. In six of these cases the diagnosis was made before rupture and in twenty-two, after rupture. All were operated upon and two were so near death, that they did not require an anaesthetic.

I shall now briefly report the five cases which have come under my observation.

CASE NO. 1.

Mrs. C., age 31, born of French parents, first child then eleven years of age, had not been pregnant since that time, called at my office on March 28, 1891, and told me she was pregnant, had not menstruated in about ten weeks. She complained of slight nausea in the morning and some pain in the abdomen, with a slight bloody discharge from the vagina and feared she was going to have an abortion. No vaginal examination was made at this time. The patient was advised to go home and go to bed and remain there until the pain ceased. I next saw the patient the following morning at five o'clock on March 29th, when I received a call to come at once to Mrs. C.'s as she had been taken violently ill. I dressed hurriedly and was at her bedside in less than twenty minutes from the time she was stricken with severe pain.

The history she gave me and the symptoms which she showed at this time, were as follows. She had slept well, without having any pain and arose in the morning as usual at 5:30

and came down stairs to prepare breakfast for her husband and while walking across the kitchen floor, she was taken with a sudden, severe tearing pain in her abdomen, which caused her to fall to the floor. Her husband, who had heard her fall, hurried to her side and placed her on a couch, where I found her upon my arrival. Her appearance at that time, was that of a dying person. The face was deathly white, the forehead was covered with a cold, clammy perspiration as was the whole body. She complained of excruciating pain in the right side, in the region of the tube. The pulse was very rapid and weak, her temperature at the time being 97½. She also complained of great hunger and thirst, also unable to get air without having windows and doors thrown open. She was given ¼ gr. morphia, hypodermically, 1-30 gr. strychnia and consultation called at once. Drs. Wheeler and Grinnell were at her bedside in an hour. It was decided that there was an internal hemorrhage, an operation was suggested, but as laparotomies were not as common fourteen years ago and the proper surgical treatment was not as well known then, as now, she was not urged as strenuously as she would be nowadays, to have an operation performed. Her husband, father and mother, also stubbornly refused to have surgical interference. She was given strychnia, digitalis and brandy, hypodermically to keep up the pulse, ergot and gallic acid in hopes of stopping the hemorrhage, ice bag applied to the abdomen and her bed elevated, but she grew gradually weaker and died the following morning, twenty-three hours after being taken ill. The autopsy, which was performed by Dr. H. C. Tinkham in the presence of many of the physicians of Burlington, showed upon the opening of the peritoneum, that the abdominal cavity was filled with blood, the fallopian tube on the right side was ruptured in the middle and that death was caused by hemorrhage from the ovarian artery. I believe if an operation had been performed, her life would have been saved.

CASE NO. 2.

Mrs. H. K., born of Irish parents, aged 27, primipara, had always enjoyed good health, had been married three years. She was ill at a sanitarium when I was called in consultation and she gave the following history. She had been ill for eight days, was taken with a sudden severe abdominal pain and had continued to grow worse each day. The case had been diagnosed as intestinal obstruction or colic of some kind, but my diagnosis was Extrauterine Pregnancy, and I advised an immediate operation, but as we did not agree on the diagnosis, the operation was not performed. She improved somewhat for several days, but on the fifteenth day of her illness, her husband and parents insisted upon my seeing her again and I could only confirm my previous diagnosis and I told the doctor, at whose sanitarium she was, that I believed the woman was suffering from shock, caused by the loss of blood, and that unless she had an operation, she would not live forty-eight hours. This was at five o'clock and at 6:30 she was on the operating table and when the peritoneum was opened, the blood gushed from the wound. The abdominal cavity was full of blood, some clots and some in liquid form. The right fallopian tube was ruptured and the hemorrhage came from the ovarian artery. The tube and artery were tied off and removed, the abdomen filled with salt solution and the patient made a good recovery, but it was several months before she regained her former good health.

CASE NO. 3.

Mrs. B., aged 29, born of American parents, had one child six months of age, had had no abortions, was nursing her baby and did not know she was pregnant, and she seem-

ed to be in perfect health. On April 22, 1903, she was returning from a neighbor's, when she was taken with a sudden, severe pain in the abdomen, so severe that it was with difficulty she reached her home, which was only a short distance. It was then about 11:30 and I was sent for at 1 P. M. When I reached there, she looked very pale and said she could scarcely see me and complained of great abdominal pain, which was not localized, whole abdomen was painful, but most tender on left side. Her face presented a drawn look, her forehead, neck and body were covered with a cold, clammy perspiration and she said she was thirsty and hungry and wanted lots of air. Her radial pulse at that time was 1.40 and it could scarcely be felt. I told her she was seriously ill, and that an immediate operation must be performed to save her life. The circumstances right here were peculiar. Her parents and friends were at her former home, (she had only been in Burlington a short time) and her husband had left her that morning in perfect health to go out of town for the day and could not be back before 6 P. M., and as I explained the gravity of her case to her, her only reply was, "Do as you think best and try to save my life." One of the bravest women I have ever known. I immediately telephoned for Drs. Wheeler and Hawley and asked Dr. Wheeler to come prepared to do an abdominal operation at once. As my diagnosis was confirmed by both of the doctors, a nurse was procured, and everything put in readiness and at 2:30 she was etherized and Dr. Wheeler operating. When he opened the abdomen, the blood gushed forth from the wound and the abdominal cavity was found filled with blood. The fallapian tube on the left side was found ruptured and the hemorrhage came from the left ovarian artery. The tube and ovary were removed, the abdomen filled with salt solution and closed up, a pint of salt solution was injected under each breast and she was given also a high enema of the salt solution. She made an uninterrupted recovery and was up and about the house in four weeks.

CASE NO. 4.

Mrs. G., age 22, French parents, came to the Fanny Allen Hospital May 2, 1903, had never been pregnant. She had been sick for three weeks and it was thought she was suffering from a pyo-salpinx. As she could scarcely speak or understand English, we could get but a very meagre history of her case. Examination of the pelvis bi-manually showed that there was a large tumor of some kind, which filled the cul-de-sac of Douglass. Her pulse at this time was about 100, temperature 100. A medium incision was made and the pelvis was found to be filled with a clotted blood. I found there was a rupture of the right fallopian tube into the layers of the broad ligament. The tube and ovary were removed together with the sac of the broad ligament. The pelvis was flushed with sterile water and a gauze wick was placed in the bottom of the pelvis for drainage. The wick was removed in forty-eight hours, the wound was allowed to close and in four weeks the patient was discharged, cured.

CASE NO. 5.

Mrs. John D., age 32, born of Irish parents. She had been married five years and has one child, three years of age. On September 1, 1904, at 1 A. M., while sitting on her veranda waiting for her husband, who is a hackman, to return, she was taken with a sudden, severe, colicky pain in her right side and for some time she was unable to move, but after a time she aroused her neighbors, who gave her hot drinks and applied heat to the abdomen, but without any relief. I was called at 3 A. M. The patient gave the following history. Said she had flowed a little every day for three

weeks; six days previously, she had an abortion, at the second month, and said she was sure everything came away; she did not have a doctor at that time; said she did not flow very bad, but saw something that looked like a piece of flesh, had not flowed since that came away and felt well until this pain came on. Examination of the pelvis showed that the uterus was slightly enlarged, not tender, and no discharge. The patient was vomiting and she complained of excruciating pain all over the abdomen, but she seemed to be most tender over McBurney's Point, and there was a tense rigidity of the abdominal muscles on both sides of the abdomen.

The pulse was 100, small and feeble, temperature 98½.

She was given at once ¼ gr. morphia and 1.30 gr. strychnia, hypodermically. I was undecided at this time as to the diagnosis. She seemed to be suffering either from a general peritonitis or shock from a ruptured appendix. The treatment at this time was hot poultices, constantly applied. 5 grs. bismuth once an hour to stop vomiting. After a time the pain seemed to have lessened and I went home. I was again called at 7:30 and the patient seemed much worse. When I arrived, I found her in a much more serious condition than she was when I left her, four hours previous. Her face was pale and she had that anxious, drawn look so characteristic of acute peritonitis. The pulse was 120, compressible, and could scarcely be felt at the wrist. Abdomen showed slight tympanites, and all the abdominal muscles were very rigid. Tenderness all over, but most tender on right side, patient not vomiting, but complained of terrible pain.

I immediately gave her another hypodermic of morphia ¼ gr. with strychnia, 1.30, and from her symptoms at this time, I felt positive that one of two conditions existed, either extrauterine pregnancy with a ruptured tube on the right side, or a ruptured appendix, with general peritonitis. I explained the gravity of the case to her husband and told him that she should be sent to the hospital at once and an immediate operation performed, that in my opinion, that was the only chance to save her life. Dr. J. B. Wheeler was called to see her at eight-thirty, and he also advised her removal to the hospital and an immediate operation, and it was his opinion that she was suffering from shock, the result of appendicitis or possibly extrauterine pregnancy. She was removed at once to the Fanny Allen Hospital, where Dr. Lyman Allen also saw her in consultation and assisted at the operation. He, too, advised an immediate operation, and gave as his opinion that she was suffering from one of three conditions, a ruptured appendix, a twisted pedicle of a tumor, or an extrauterine pregnancy. At this time I made a positive diagnosis of extrauterine pregnancy. At eleven A. M., nine hours from the time she was taken with the pain, I opened the abdomen and when the incision was made, through the peritoneum, the blood gushed out, the abdominal cavity was full. The blood was removed as rapidly as possible and the uterus and tube brought into view. About one-half inch from the right cornu of the uterus, the rupture had taken place in the right fallopian tube. Both ends of the ruptured tube were quickly clamped and the hemorrhage stopped. The patient was put in the Trendelenburg position and the ovary and tube removed. The abdominal cavity was flushed with hot sterile salt solution, all clots and blood removed. Abdominal cavity filled with salt solution and closed. A quart of hot salt solution was given by high enema, while on the table, a pint of salt solution was injected under each breast immediately after getting her into bed. She was in an extremely critical condition for forty-eight hours, then began to rally and has

steadily improved since. She is now sitting up and will be discharged from the hospital in a few days.

The points of general interest in these cases, are, first, the age of the patients. One was thirty-two years, one thirty-one, one twenty-nine, one twenty-seven, and one, twenty-two. Second, only one case had a long period of sterility, eleven years between the periods of impregnation. The next longest was three years. One was the first impregnation, at the age of twenty-seven. One was six months after a full term birth, and one in a woman twenty-two years of age, who had never been pregnant to her knowledge. Third, the point of rupture in four of the cases was on the right side, near the middle of the tube, one near the cornu of the uterus. Fourth, in four of the cases the rupture opened into the abdominal cavity, which was found filled with blood. One opened into the layers of the broad ligament. Fifth, four of the cases were operated upon and all made a good recovery. Upon one, no operation was performed, the treatment was by the expectant plan, a forlorn hope, and she died twenty-three hours after being taken ill. Sixth, the remarkable improvement which took place in all of the patients immediately after the introduction of the salt solution into the abdomen and rectum and under the breasts. In my opinion, the lesson these cases teach, is, when a diagnosis of extrauterine pregnancy is made, either before or after rupture of the tube, an immediate operation should be performed, as is promises the greatest safety to the patient.

Brainfag, from worry, overwork or excesses of various kinds, is quickly relieved by the use of Celerina, in teaspoonful doses three times a day.

WHAT CAN PREVENTIVE MEDICINE DO TO SAFEGUARD THE MIDDLE EAR AGAINST ACUTE AND CHRONIC INFECTION?*

By Francis P. Emerson, M. D., Aural Surgeon, Boston Dispensary. Boston, Mass.

Preventive medicine must always lie for the most part within the province of general medicine and whatever the special practitioner may add thereto should be in conjunction with or supplemental to his initiative. The ear is no exception, for nine-tenths of its diseases arise from general infection through the blood current, are the result of abnormal conditions of the naso-pharynx, or the sequel of acute infectious processes with a local manifestation in the upper air tract. The organ of hearing then can only be safeguarded by early and prompt recognition of causes easily and safely remedied.

I will not go into the minute anatomy of the ear with which all are familiar, but will remind you, as Dench has pointed out, that the lymphatic channels are freely distributed and anastomose both with the superficial lymph glands and with those forming the sub-mucous, lymphatic system of the pharynx. The superficial lymphatics over the mastoid, the lymph nodules in front of the auricle and those situated in the cervical region between the platysma and the sterno-mastoid muscles are all intimately associated with the lymphatic channels of the meatus and tympanum, while free lymphatic anastomosis exists in the opposite direction through the medium of the glands situated in the laternal pharyngeal walls. The lymph channels of the membrana tympani itself are arranged in three systems, one for each layer. These communicate freely with each other and with the lymphatic network of the external meatus. This relationship with the

*Read at the 91st annual meeting of theVermont State Medical Society.

pharynx through the lymph channels needs only to be called to your attention. The gross anatomy, vascular and nervous supply are familiar to all and, for our purpose, we need only to remember that the external canal is covered with integument continuous with that of the face, while the tympanum and Eustachian tube are lined with mucous membrane which is identical with that of the pharynx. Mucous glands are extensively developed in the cartilaginous tubes near the pharyngeal orifice. We find here, also, lymphatic tissue diffuse and aggregated into masses in the form of true lymphatic nodules.

PHARYNX.

This adenoid tissue is well developed around the borders of the mouth cavity, forming an organ which has been called the lymphatic pharyngeal ring. This tissue may be divided into three masses, that which is in the tongue, that associated with the palate, and that situated in the pharynx. It is the lymphoid tissue in the latter location which threatens the integrity of the ear more directly. While the pharyngeal tonsil situated mainly in the nasopharynx may be an anatomical gland fulfilling its normal function, yet its folds and location offer an inviting field for infection and, when neglected, we know it may become hypertrophied so as to mechanically obstruct, nasal breathing and be a constant menace to the ear. Almost as bad is the adenoid tissue in Rosenmuller fossae which does not mechanically interfere with respiration but which, from its influence upon the Eustachian tube, keeps up a salpingitis and exposes the middle-ear to invasion from acute or chronic infection. The distribution of this tissue is normal, but its over-development or its infection during childhood is one of the important problems of preventive medicine, especially in relation to the ear.

Adenoid tissue not only mechanically offers obstruction to free respiration and affords soil for bacterial growth, but the posterior ends of the inferior turbinates may be and usually are hypertrophied in conjunction therewith as well as from over-function from a deflected air current, or any other cause which results in hypertrophic rhinitis. These enlarged posterior ends interfere with the normal function of the Eustachian tube.

Again, adenoid tissue, I believe to be a common cause of enlargement of the middle turbinals, from discharge through the nares, and secondarily, of infection of the sinuses, although usually the more common cause is incident to deviated septi and acute infection anteriorly.

A study of the sinuses as causes of acute and chronic infection of the middle-ear has shown, as we would suppose, that the sphenoid and posterior ethmoid are more often at fault, although any sinus discharging free pus into the nares may, of course, infect the Eustachian tube and middle-ear.

In a study of chronic ears covering 268 cases, I found the sphenoid infected in twenty-five cases, that is, .09 3-100. The next most common cause of acute and chronic rhinitis, which may menace the middle-ear, results from deviated septi, including spurs, ridges, etc., which may mechanically oppose the free egress of mucous in blowing the nose and thus divert it into the Eustachian tube, or may keep up an acute or chronic catarrhal process which may extend to the middle-ear. Constitutional diseases with a local manifestation in the naso-pharynx may likewise involve the middle-ear.

So much for the more common conditions in the naso-pharynx. How about haematogenous causes?

Grunert's exhaustive resume of the pathologico-anatomic investigation of the diseased middle-ear during the last decade shows how

our knowledge has been revolutionized and our treatment affected thereby. He points out the established fact that bacteria do not occupy the normal middle-ear. This leaves but two avenues—either the blood current or by way of the external or internal tubes. At the internal or Eustachian orifice, you remember the tube is richly supplied with lymphatics and the motion of the ciliated epithelium is toward the pharynx, offering protection except when this is prevente dby diseased conditions.

With this in mind, as Grunert points out, we can understand the tendency of febrile, infectious diseases to invade the middle-ear whenever the ciliated epithelium is injured in its biological properties by high temperature or by the toxines of the disease. This resistance of the cilia can be mechanically overcome by violence in blowing the nose and, in my experience, it is one of the most common means, so that it is well during any acute attack to caution the patient to blow but one side at a time, or in obstruction of one side, leave both free.

While the Eustachian tube is the usual gateway of infection, it has been shown that acute tuberculosis, especially in scrofulous children, some cases of diphtheria and occasionally malignant scarlet fever, etc., may rarely cause middle-ear infection through an haematogenous origin.

It is instructive to note the organisms found in the middle-ear and, in general, it may be stated that acute conditions are mono-bacterial, while chronic suppurations show mixed infections.

Leutert found in 63 mastoid abscesses following acute ears: streptococci, 38 times, in pure culture; pneumococci, 11 times; staphylococci, 5 times; tuberculosis, twice, and in the other cases, mixed infection. Green's researches confirm his findings. Kossel demonstrated Loeffler's bacillus in the pus of an acute otitis media, and Stern the bacterium coli. Other bacteria, as the bacterium aerogenes, the pseudo-diphtheric bacillus, as well as a blastomycetes have occasionally been found as a cause of acute infection.

TREATMENT.

In our study of causes, we find that the majority of middle-ars result from pathological processes in the naso-pharynx and that such conditions, keeping up a so-called catarrh, are a menace to the middle-ear.

The tendency to lymphoid tissue is peculiar to certain families and, as it begins to develop at the eighth month of foetal life, the earliest start of the infant should be carefully supervised. Until the seventh year if nasal respiration is not normal, if the child is subject to bronchitis, croup or frequent head colds, the cause is usually in the vault of the pharynx and due to adenoids. The prophalaxis has to do with hygiene, cool bathing, suitable clothing, properly heated houses, the administration of fats and all those valuable suggestions which have been so forcibly impressed upon us by the students of tuberculosis. Once infected, however, or hypertrophied, the only rational treatment is removal.

During the acute naso-pharyngitis, if seen during the first twelve hours, local measures are secondary to a mustard foot-bath with Grs.X Dover's powder or a glass of hot lemonade and a cathartic. After this time and during the stage of congestion, we should keep the nares patent and avoid blowing but one side of the nose at once. To keep the nares open, a warm room with steam impregnated with Tr. benzoin Comp., menthol or camphomenthol is generally sufficient. If the naso-pharyngitis accompanies the infectious diseases, an alkaline gargle or normal salt solution is suggested to keep the pharynx clean. If

the child or adult is about the house or out of doors at this stage, an ointment consisting of menthol Grs. X, eucalyptol M. v Ext. hydrastis, Grs. XP and lanolin 1 oz. is very efficacious, or camphor-menthol 5 percent. in benzoinal 1 oz.; or the nares can be smeared with oil hyoscyamus; or we can extemporize with oil peppermint, M. III-v to 1 dram of petroleum. Later, as the secretions thicken and the mucous membrane relaxes, alkaline sprays as near the specific gravity of the blood as possible can be employed, blowing the nose gently to avoid forcing the Eustachian tube.

In adults, the acute conditions can be met as above, but for chronic naso-pharyngitis with salpingitis and oftentimes sinusitis and hypertrophic conditions of the turbinates, great judgment should be exercised to restore or maintain the funtcion of the nose by nasal surgery. If the hearing cannot be improved by inflation, then nasal surgery is useless. If it can, then the source of the infection must be sought and corrected, whether this be adenoid tissue about the tubes or in the vault, deviated septi, hypertrophic rhinitis with enlarged posterior ends of the inferior turbinates, cystic or enlarged middle turbinates, spurs, ridges, etc., sinusitis, especially of the posterior ethmoid or sphenoid (although we rarely find one affected alone,) or digestive disorders which affect the lower pharynx and inferior turbinate. Having found the exciting couse and remedied the sequelae, we can not only arrest the morbid process but even improve most cases. If taken while confined to the naso-pharynx, we can safeguard the Eustachian tube and middle-ear. Whether this be an acute or chronic process, it comes within the province of the general practitioner to control or recommend judicious surgery.

AMPUTATIONS.*

By Thomas H. Manley, M. D., Ph. D.

Gentlemen, this morning we will take a glance at that gruesome subject, the sacrifice of a limb. The amputation of a limb has been well designated an opprobrium of surgery; and view it from any aspect we may, it must be regarded as a humiliating confession of our helplessness, when we sacrifice by severance any member or appendage of the human frame.

Text-books have been encumbered with tedious detail, and pictorial display of variously formed flaps, the points for unlocking joints and piercing the parts with the long scimiter blade; but, it has only recently come to pass, that we have fully realized, that an amputation, however artistically performed, reflects no credit on surgery, the mission of which is to preserve and not destroy. Moreover, we have learned that in this direction, after grave traumatism, the acme of our art is best attained by trying most diligently to dispense with primary amputations altogether. This has now become an established fact, as we at present confine ourselves quite exclusively to only detaching the dead parts from the living, and resecting just enough bone to allow of an ample cutaneous investment.

On this occasion, time will only permit us to touch briefly on amputations subsequent to traumatisms; those consecutive to the large shattering of bone in fracture.

We have noted that in former times, widespread infection after an open fracture often imperilled the limb; here amputation came in only as a *dernier resort* to save life. But this infection we seldom see now, or if it does occur, we find we have better fed and more vig-

* One of the last Clinical lectures delivered at N. Y. School of Clinical Med. by the late Professor of Surgery.

orous patients enabled to overcome it. We have learned also, how, by the skillful utilization of osteoplastic procedure, to effectively supply the defects from loss of necrotic, shattered bone, and successfully transplant or graft, in those cases followed by an excessive loss of integument. Some of the most ghastly cases of this class we have seen ultimately recover with very useful limb.

The rule, therefore, now should be, to only sever the defunct from the vital parts; *i. e.* The limb has been traumatically amputated, killed outright at the time of the injury; its vitals—its nerves and blood vessels—have suffered mortal damage, and only shreds of integument, torn, fascia, and tendon hold the parts together.

We not uncommonly see cases of large mangling of a limb from a bad crush, which at first sight impresses us with a conviction of no hope of its preservation, and yet with time and judicious management, in a sound subject recovery may follow with a very useful member; it may be short, somewhat distorted, there may be a stiff joint, but it will serve a more useful purpose than any sort of prothetic appliance, however skillfully constructed.

Having decided that an amputation is imperative, we will observe that there are four things calling for special notice. The first is the painless severance of the part, for which we will employ a pulmonary anaesthetic or a local analgaesic. Deep anaesthesia always adds an element of danger when there has been large exsanguination. Cocaine or eucaine, subcutaneously employed will always suffice in amputation of the digits. My preference is for cocaine in 1 per cent. solution; the circulation having been arrested by a constriction, above. For all minor amputations this suffices; but, when the parts are inflamed and manipulation may be tedious we must have recourse to general anaesthesia.

Secondly, severe cleanliness with the employment of antiseptics, we must employ, in all cases at the seat of infection; but we should never neglect to flush away any excess of the chemical solution from the nude bone surfaces, lest a severe irritation be provoked, which may later cause unpleasant sequelae after the parts have healed.

Third, haemostasis: The economy of blood should always be effective in these cases, because, in many at the time of injury, there may have been a large exsanguination.

The rubber elastic constrictor of Esmarch will always secure for us a dry field, but it has its disadvantages. Its employment is not infrequently followed by secondary-hemorrhage. When we use it, it will be well not to apply it too tightly, nor allow it to remain on too long. With inadequate assistants, it certainly is a great help, but when we are amply prepared, are well supported and operate quickly, this prophylactic expedient may be dispensed with. As to what constitutes the best ligature-materials in closing the divided arteries there is yet no unanimity of opinion, though all agree, that it would be a great gain if we could altogether dispense with them. With this aim in view, some operators quite entirely depend on torsion of the vessels large and small, and others on the new haemostatic agent, the angiotribe, an instrument which reduces the vessel by powerful crushing; others again, first crush the vessel and mummify it with the actual cautery. As a whole, with all its drawbacks, a well prepared ligature is to be preferred to any other expedient in the majority of cases.

Fourth, the question of flap is an important one in amputations, as the future comfort of the patient and degree of function in the limb,

in no small measure depend on the effective covering of the stump. To make a flap too long is to invite disaster by sloughing; to make it too short, renders another amputation necessary. If, in traumatisms of a limb, time be permitted to allow the line of demarkation to form, then we have a sure guide, and need not fear sloughing of the flap.

The special shape or outline of the flap counts for nothing in amputations after crushes; as our guiding principle should be to spare as much of the tissues as possible, and cut away only so much as is necrotic and is hopelessly lost. Possibly in doing this, we may leave a stump inadequately covered. Should this occur after the patient recovers his full strength, resection of the projecting bone is a simple and effective procedure.

PROGRAM OF SEVENTH ANNUAL SCHOOL OF INSTRUCTION FOR HEALTH OFFICERS, BURLINGTON, VT., JUNE 19 TO 22, INCLUSIVE, 1905.

The following is the *provisional* program. This is subject to change previous to the issuing of the final program in June.

PROGRAM.

MONDAY EVENING, JUNE 19, 8 O'CLOCK.

Opening Remarks, President Charles S. Caverly.

Address, Governor C. J. Bell.

Address, Right Rev. J. Michaud, Bishop of Burlington.

Address, Frank L. Greene, Esq., St. Albans, Vt.

TUESDAY MORNING, JUNE 20, 9:30 O'CLOCK.

Paper, Disinfectants, by Prof. F. C. Robinson, of Maine.

Discussion, Dr. Wm. Lindsley, Montpelier; Mr. Edgar B. Moore, Rutland; Dr. Henry Tucker, Brattleboro.

Paper, Hygiene of Schoolhouses, etc., by Hon. Walter E. Ranger, Superintendent of Education.

Discussion, S. H. Kent, Esq., Northfield; Dr. R. J. Goss, Norwich.

Paper, Examination of Eyes and Ears of School Children, by Authority of an Act Passed at Last Legislature, by Dr. Geo. H. Gorham, of Bellows Falls.

Discussion, Dr. M. C. Twitchell, Burlington; Dr. C. A. Crampton, St. Johnsbury.

TUESDAY AFTERNOON, JUNE 20, 2 O'CLOCK.

Paper, Water Filtration, by H. W. Clark, Esq., Boston, Mass.

Paper, Purification of Water by Sulphate of Copper, by A. H. Doty, Port Physician of City of New York.

Discussion, Prof. J. W. Votey, Burlington; Dr. C. B. Ross, West Rutland; Dr. G. F. B. Willard, Vergennes; Dr. H. A. Elliot, Barnet.

TUESDAY EVENING, JUNE 20, 8 O'CLOCK.

Paper, Cerebro-Spinal Meningitis, by Dr. Daniel Lewis, Commissioner of Health, New York.

Discussion, Prof. A. O. J. Kelley, Philadelphia; Dr. L. M. Greene, Bethel.

WEDNESDAY MORNING, JUNE 21, 9:30 O'CLOCK.

Paper, Infectious Diseases, Diagnosis and Isolation, by Prof. A. C. Abbott, President of Board of Health, City of Philadelphia.

Discussion, Dr. W. L. Havens, Chester; Dr. C. W. Locke, Springfield.

Paper, Ventilation of Public Buildings and Their Proper Equipment in Case of Fire, by Henry E. Bromley, Esq., Chief Sanitary

Inspector, Department of Health, New York City.

Discussion, Dr. F. E. Clark, Burlington; Dr. Frank Wheeler, East Montpelier.

WEDNESDAY AFTERNOON AND EVENING, JUNE 21.

Tuberculosis Symposium will be held with the State Commission on Tuberculosis, Dr. D. D. Grout, President; Dr. W. N. Bryant, Secretary; Dr. E. R. Campbell; Dr. S. E. Darling; Hon. Henry Ballard.

Paper, title to be announced later, by Prof. E. R. Baldwin, of Saranac Lake, N. Y.

Paper, Adirondack Sanatoria for Tuberculosis, by Redfield Proctor, Jr., of Proctor.

Discussion, Alexander N. Wilson, Esq., General Secretary Boston Association for Relief and Control of Tuberculosis; Dr. H. E. Lewis, American Editor of International Journal of Tuberculosis, Burlington; Dr. C. W. Peck, Brandon.

Wednesday evening there will be a meeting of the Vermont Society for the Prevention of Tuberculosis.

A large and complete exhibit of specimens, charts, maps, photographs, models, and other things, illustrating the pathology and methods of treating and prevention of tuberculosis.

THURSDAY MORNING, JUNE 22, 9:30 O'CLOCK

Paper, Food Inspection Under Recent Legislation, by C. P. Moat, Chemist to State Board of Health.

Discussion, H. L. White, Medico-Legal Chemist to the State Board of Health.

Paper, dealing with the public health laws, title to be announced later (followed by questions,) by Robert A. Lawrence, Esq., Rutland.

Discussion, Mr. H. L. Stillson, Bennington; Dr. T. R. Stiles, St. Johnsbury.

NEWS, NOTES AND ANNOUNCEMENTS

FRANKLIN COUNTY DOCTORS.—The annual meeting of the Franklin County Medical Society will be held at the Quincy house, Enosburgh Falls, Thursday, May 25. The following programme has been arranged for the occasion: Calling the meeting to order at 11 o'clock; reading of the records of the preceding meeting; report of the treasurer; announcement of committee on nominations by the president; address by the vice-president of the society, Dr. C. S. Scofield, of Richford; paper by Dr. F. S. Hutchinson, of Enosburgh Falls: "Of Practical Interest to the General Practitioner;" paper by Dr. R. E. Welch, of Franklin, "Non-Operative Appendicitis;" report of special cases and general discussion.

BURLINGTON AND CHITTENDEN COUNTY CLINICAL SOCIETY.—The regular meeting will be held at 162 College Street, Thursday, May 25, 1905, at 8:30 P. M. The following program has been arranged: Chlorid retention in nephritis with especial reference to the causation of edema and the effect of dechloridation in the treatment, Dr. A. O. J. Kelley, Philadelphia. Discussion will be opened by Dr. F. E. Clark. Refreshments will be served after the scientific session.

WINDSOR COUNTY MED. SOC. MEETING.—The 20th annual meeting of the White River Medical Society and the 10th annual ladies' night and banquet was held at White River Junction May 17.

The officers elected are: President, C. B. Doane, Springfield; vice-president, F. A. Smith, Lebanon, N. H.; secretary and treasurer, M. L. Bugbee, White River Junction; censors, R. J. Goss of Norwich, J. L. Nowlan

of South Stafford and W. E. Carleton of Hanover, N. H.; auditors, M. P. Stanley of White River Junction, M. S. Woodman of West Lebanon, N. H.

LIQUOZONE FOR HYDROZONE.—We are advised by excellent authority that various well authenticated instances have been reported where physicians have been using Liquozone on the supposition that it is practically of the same composition and therapeutic utility as Hydrozone and Glycozone.

The *New York Sun* recently described the experience of a confiding individual who actually gave up $50,000 to alleged wire tappers who posed as being philanthropic enough to give him inside information on the races. The characteristic editorial comment was that this confiding individual occupied the head of the list in a new class.

In view of the repeatedly published analyses of Liquozone the doctor who is confiding enough to prescribe it in place of such old and reliable standard products as Hydrozone and Glycozone must also stand near the head of a new list.—*Editorial from The Monthly Cyclopedia of Practical Medicine of Philadelphia, Pa., April, 1905.*

DISEASES OF CHILDREN.

By D. C. Hawley, M. D., Burlington.

In order to properly understand and manage the diseases of children, one must have a thorough knowledge and appreciation of the sensitive and changing temperaments of childhood, as well as of its various developmental processes.

Skill in diagnosis and treatment is acquired only after a mastery of much anatomic and physiologic knowledge, supplemented by careful study and painstaking observation of this class of patients.

The stage of development and peculiarities of the individual are important factors in every case and must be understood as a basis of diagnosis and management.

Knowledge of disease as affecting adult life and of the ordinary methods of diagnosis is, as a rule, inadequate to a proper estimate of the seriousness or outcome of similar cases in infancy and early childhood.

Pediatrics constitutes a special and important branch of medicine calling for special knowledge, acute observation, ability to rightly interpret what one sees or hears and tactful judgment in management or treatment.

The importance of this subject to general practitioners of medicine, who constitute the large majority, as well as the bone and sinew of the medical profession in our State, is my reason for presenting this topic here.

The factors which have had the greatest influence in perfecting pediatrics as a special branch of the healing art are modern methods of examination, including the use of the thermometer, physical diagnosis, endoscopy, and chemical and bacteriological examinations.

You will note that I use the word management as synonymous with and in a measure supplanting the word treatment. I do this advisedly and I hope to be able to leave the impression that in performing our sacred duty of directing the evolution of the infant to childhood and of the child to adolescence, prophylaxis is better than care and proper management of more importance than drug treatment.

The time allotted to this paper will admit of but a cursory review of this large and important subject and I shall not undertake a consideration of specific diseases.

Infancy is usually described as covering the period from birth to the end of the second year and childhood the period from the beginning of the third year to puberty. Again the period embracing the third to the seventh years inclusive is described as early childhood.

These divisions are not arbitrary but are based on anatomic and physiologic changes peculiar to these periods of development.

In studying the diseases of infancy and childhood the period of development modified as it is by sex, idiosyncracy and climate is a better guide than the exact age of the individual patient, and the vital question often one of proper development rather than of pathologic processes.

I believe it to be an indisputable fact that improper feeding and unhygienic conditions are the principal etiologic factors in the diseases of infancy and childhood.

If this be true, it follows that the two most important subjects in pediatrics and the ones on which both the profession and the laity need increased knowledge and enlightenment are infant feeding and infant hygiene.

In view of the fact that so large a percentage of infants die before the age of twelve months and the added fact that the majority of the diseases of infancy and childhood are preventable, the greatest promise of present and future advancement in pediatrics seems to lie in the line of prophylaxis. Improved sanitary conditions, proper disinfection and a more thorough and rigid quarantine are prerequisites in securing the proper nutrition and development of the child and the prevention of infection.

Statistics collected in this and other countries tell us that infant mortality had greatly increased during the past twenty years and that the principal causes of death during the first twelve months are first, gastro-enteric diseases and marasmus and second, acute respiratory diseases in the order mentioned. In the second year diseases of the gastro-intestinal tract, acute diseases of the respiratory organs and acute infectious diseases, principally whooping cough, measles and diphtheria are the most important causes in producing a high mortality rate. During the third, fourth and fifth years the greatest mortality is due to the dreaded infectious diseases, scarlet fever and diphtheria.

The prophylatic measures which are essential in lessening infant mortality are such as will secure the ideal physical development of the child, and on account of differences of development and differing degrees of resisting power must be largely individual.

With each cycle of development the resisting power of the organism increases and the mortality rate diminishes. The high mortality of the first year of life is, I believe, both unnatural and unnecessary and may be lessened by securing improved hygienic conditions including protection against infections and improper feeding. Of hygienic measures, life in the open air is one of the most important for healthful development and for the prevention and cure of disease.

The first year of child life, which is known as the period of nursing or the first nutrition period, is marked by rapid growth of the brain, great increase of body weight, and the necessity of an exclusive milk diet.

The period from the second to the fifth years inclusive is marked by the appearance of the deciduous teeth and by growth and development of the skeleton.

The period included between the sixth year and puberty is marked by muscular development and activity, functional development and slow increase in body growth. The most important of these periods is the first.

It goes without saying that the best food for the infant during the greater part of this period is mother's milk. In the absence of a proper supply of mother's milk the best and most available substitute is cow's milk properly modified.

The general constituents of breast milk and cow's milk are essentially the same, consisting of fats, carbohydrates, proteids, inorganic salts and water, the specific difference between the two being in the different relative proportions in which they are combined. Breast milk is alkaline, while cow's milk after standing a short time is acid. Breast milk contains more fat, and more carbohydrates, but less proteids and less salts than cow's milk, it also contains more water or is more highly diluted.

The proper modification of cow's milk for infant feeding consists in bringing it to correspond as nearly as possible in the relative proportion of its constituents and in chemical reaction to

breast milk. Thus properly modified it is the best infant food for continuous use in the large majority of cases where nature's supply is unavailable.

The addition of barley, oatmeal or gelatine in the form of gruel or so-called water for the purpose of diluting the proteids is of questionable utility.

In some cases where the proteids are feebly digested the use of peptonized milk or the addition of beef juice is advantageous.

In cases of severe gastro-enteric disturbances the entire withholding of milk for a time is important when one of the prepared foods, animal broths or albumen water may be substituted. During the second year milk should still be the basis of the child's food, with the careful addition of farinaceous food, bread, beef juice, eggs and fruit.

The mistake of allowing solid food too early and in too large quantities is often made and is, I believe, the cause of most of the gastro intestinal disorders of this period.

During the remainder of the period designated as early childhood, milk again is the proper basis of the diet with the proper addition of cream, beef, mutton, chicken, eggs, cereals, stale bread, crackers, simple desserts and fruits.

In the division of infancy and childhood into a number of periods the physiologic growth of special organs is the basis of division. Each period has a special morbid physiognomy with consequent special needs as regards protection from external injuries and infections, proper methods of nourishment and therapeutic and physical modes of treatment.

"The further theoretical and practical application of this special care, the limitation of disease, the greatest possible development of the resistive power and the child's physical development are the ideals which we must now look forward to in pediatrics."

SPECIAL THERAPEUTIC ARTICLE.

A CASE OF PNEUMONIA FOLLOWING SEVERE TYPHOID.

Recovery.

From a correspondent in Florida.

J. B. W.—White, male, age 30 years, was recovering from a severe case of typhoid. On the 36th day his temperature was normal. On the 39th day it again began to rise and in a few days had reached 104.5, the pulse 140. A severe cough and consolidation of the right lung told the story of a complicating pneumonia. After the long and severe drain upon his resources incident to the typhoid his condition presented a very alarming, not to say, desperate situation.

Counsel was called and it was decided that his only hope lay in the generous use of Antiphlogistine. A "large" package was secured and heated by placing the sealed can in hot water. The temperature of the room was brought up to about 80°. A cotton lined cheese-cloth jacket, open upon the shoulders and in front was prepared and warmed. Uncovering the patient's thorax, Antiphlogistine as hot as could be borne was spread upon the skin about ⅛ inch thick over as much of the thoracic walls as could be reached (back, front, side and over the shoulder). This was covered with the jacket. Turning the patient over, the other side was dressed in the same way. The jacket was then drawn together over the shoulders and down the front with stout thread. It is proper to say the entire contents of the 34½ oz. package (large) was used for the one dressing.

The effect was surprisingly prompt. In a few hours, the temperature had declined to a point of safety and the pulse to 120. A similar dressing was applied fresh every 24 hours. The improvement was steady and marked and in six days the patient was again convalescent, thanks to Antiphlogistine.

The brilliant outcome in this case taught me the importance of careful attention to detail in the use of Antiphlogistine. Like everything else worth while it must be properly used if the best results are to be obtained.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., May 25, 1905.

EDITORIAL.

Indigestion and Gastro-dynamics.

For a long time those who devote themselves to a study of stomach diseases, have been pointing out that the majority of all cases of chronic gastric indigestion are due to mechanical insufficiency rather than to primary change in glandular activity. In spite of this contention on the part of those who ought to know, and the rational basis for such theories, the average practitioner has gone on administering the digestive ferments as routine treatment for all forms of indigestion. A moderate amount of relief is temporarily obtained from such treatment, but rarely more. Is it any wonder, then, that the dyspeptic travels from physician to physician and ultimately becomes prey for the quack and patent medicine vendor? Certainly not and the indifference or rather ignorance with which gastric disorders have been treated accounts in no little degree for the adverse criticisms that the science of medicine so frequently receives.

The digestive ferments are exceedingly valuable medicinal agents, but their function is limited and restricted. If immotility of the stomach wall is the great cause of stomach indigestion, as would seem not only plausible but probable, the wise treatment should consist of all remedies and procedures that will restore the dynamic powers of the great digestive organ. Lavage, massage, general exercise and bitter tonics are indicated, and when used wisely, promptly correct deviant processes. Restriction of diet is quite essential and one of the first things to do. In every way the motor activity of the stomach should be stimulated and e'er long the seemingly useless organ will resume its functions. Digestive ferments may be given at the outset, but as conditions improve, the stomach should be encouraged to do its own work. Treatment with this end in view is the only one promising permanent results.

EDITORIAL NOTES AND CLIPPINGS.

THE PANAMA CANAL MISMANAGEMENT.—In the *Journal, A. M. A.,* April 1, the Isthmian Canal Commission replies at length to the charges made against it by Dr. C. A. L. Reed, in the *Journal A. M. A.,* March 11. The commission states that neither from official conferences nor from interviews with members of the sanitary staff has it been learned that the plan of sanitation is defective in scope or in elasticity, nor that any troubles have occurred, except such as inevitably attend the organization of such enterprises. Dr. Reed was asked for a reply to go in the same issue of the *Journal,* but he reserves his reply for the ear of the Secretary of War, because he has been criticized for allowing publication of his first report without waiting for government approval of its publication. The *Journal,* however, expresses the conviction that Dr. Reed has made out a case. In some details he may have been misinformed, but even the reply of

the commission itself proves, by the admissions made therein, that the sanitary department was very unwisely subordinated to, and hindered by, various officials and red tape methods. This was the main contention, and against this the *Journal A. M. A.* and many other medical journals protested before the commission was formed.

Macrotin is a valuable remedy in neuralgia of the fifth nerve and in ovarian neuralgia especially.—*The Alkaloidal Clinic.*

In gastralgias of an obstinate type, not very acute, with abdominal pulsation, ergotin may prove effective.—*The Alkaloidal Clinic.*

For nervous disturbances of climateric be sure to pay especial attention to elimination; cannabin and cicutine as sedatives.—*The Alkaloidal Clinic.*

For sunstroke headache make cold effusions to head and give ice water bath; quiet pulse with aconitine and eliminate.—*The Alkaloidal Clinic.*

In the headaches of heart disease and other diseases attended by vasomotor relaxation, give digitalin, caffeine, strophanthin, etc.—*The Alkaloidal Clinic.*

MEDICAL ABSTRACTS.

Cancer of the Uterus.—J. A. Sampson, Baltimore (*Journal A. M. A., May* 20,) takes up the subject of uterine cancer, more especially that of the cervix, with special reference to the importance of early diagnosis and treatment. It is of importance to the medical profession, first on account of its frequency, it being the most frequent primary form of the disease; second, because it occurs mostly in middle life; and third, because of the distress and suffering it produces. With an early diagnosis a large percentage of cures is possible, but on account of ignorance and neglect most operable cases pass into the incurable stage. Hence the importance of educating physicians, and through them the public, as to the curability and the diagnostic points for its early recognition. One early symptom easily recognized is bleeding, sometimes profuse, sometimes slight, but always abnormal, and therefore likely to attract attention. In the rare cases in which it is absent, other signs eusually exist that should lead to the suspicion that there is something wrong and needing investigation. Few patients unoperated on live over three years after the appearance of this symptom, and the majority die within one or two years. An absolute prognosis can not always be made either before or after operation or from examination of the specimens removed. With present methods, recurrence is likely to take place in three-fourths of the cases operated on, but operation may still be useful as a palliative, relieving suffering and lengthening life. Although he reports here a case of apparent cure of recurrent cervical cancer, Sampson is doubtful as to the propriety of operation in cases of recurrence. The value of education in this matter is shown by the experience of the Johns Hopkins Hospital. There has been a steady increase of the proportion of early diagnosed and operable cases and of the percentage of cures, and this increase has been most noticeable among the educated and well-to-do women. Sampson refers to Winter's campaign of education in Prussia, by which the operability of uterine cancer was increased in East Prussia from 62 to 74 per cent. in one year. The need of a more radical operation in these cases is pointed out, especially in patients in good general condition, with a freely movable uterus apparently in the early stages of the disease. When the growth is apparently extensive and its removal difficult and the patient is in poor condition, unless a very thorough operation can be done including even

excision of the lower portion of the ureters and part of the bladder, taking in all the diseased tissue, he advises that nothing be attempted. In very extensive inoperable cases he would treat the symptoms and do as little as possible locally. The article concludes with some remarks on cancer of the fundus, in which the value of an early diagnosis is even greater than in cancer of the cervix on account of the lower operative mortality and the better prognosis as to cure.

Abdominal Tuberculosis.—W. J. Mayo, Rochester, Minn., from his extensive experience with abdominal operations, of which about 3 per cent. were due to some form of tuberculosis, finds that tuberculous peritonitis is much more frequent in females than in males, and that the explanation of this fact may be found in the frequency of tubal infection (*Journal A. M. A.*, April 15.) He has verified Murphy's observation of the patency and thickening of the tubes on one or both sides in these cases. In nearly all the peritoneal involvement was greatest near the infected tube, and this he attributes to proximity and not to gravity, as has generally been done. He explains the curative effect of laparotomy in these cases as acting in two ways: First, by the mechanical separation of the fimbriated extremity of the tube from the surrounding tissue; and second, after removal of the fluid, contact and adhesions with neighboring structures may wall off the infection from the general peritoneal cavity and enable nature to exert itself on a limited focus and to produce a cure. In some cases he has found appendiceal and not tubal infection as the cause. In the majority of cases, however, the localized focus of lupus of the tubal mucosa was the cause. He holds that the failure of laparotomy and evacuation of fluid in tuberculous peritonitis is due to reinfection from local lesions not removed, and in the mucosa of the fallopian tube, appendix or intestinal tract. In nearly every case the peritonitis had its origin in a local focus, primary or secondary, and, if the former, radical operation will largely increase the chances of its cure.

STRAY THOUGHTS.

Play On!

Say not, O friend, that you are tired of life,
When shadows fall and everything seems
black,
For he alone wins credit in the strife
Who still can smile when Fortune turns her
back.

The Great Almighty never shows his plan,
But this is true in Life's exciting game,
The cards are never stacked against a man
Who does his best and seeks from men the
same.

One may not win and carry off Life's prize,
For some must lose and some will surely fall,
But brave men try, and here in honor lies,
The quitter cheats himself the worst of all.

So play your hand, one never knows its worth
Till he has played and reckoned up the cost,
And since the only real defeat on earth
Is Death,—Till then no man has lost.

H. E. L.

The Capacity to Enjoy Life.—Nothing contributes more to the highest success than the formation of a habit of enjoying things. Whatever your calling in life may be, whatever misfortunes or hardships may come to you, make up your mind resolutely that, come what may, you will get the most possible real enjoyment out of every day; that you will increase your capacity for enjoying life, by trying to find the sunny side of every experience of the day. Resolutely determine that you

will see the humorous side of things. No matter how hard or how unyielding your environment may seem to be, there is a sunny side if you can only see it. The mirth-provoking faculty, even under trying circumstances, is worth more to a young man or woman starting out in life than a fortune without it. Make up your mind that you will be an optimist, that there shall be nothing of the pessimist about you, that you will carry your own sunshine wherever you go.

There is longevity in the sunny soul that eases ocr jolts and makes our sides shake with laughter.

There is a wonderful medicinal effect in good cheer. Good news and glad tidings have a magic effect even upon invalids.

We often see a whole store or factory or home transformed by one sunny soul. On the other hand, we have seen them blighted and made dark by a gloomy, morose, fault-finding person.—*Success.*

BOOK REVIEWS.

Literary Note.—J. P. Lippincott Company announce that they will publish during the present year a translation by Dr. Albion Walter Hewlett of the Third German Edition of the *"Principles of Clinical Pathology,"* by Dr. Ludolf Krehl, with an introduction by Dr. Wm. Osler, of Johns Hopkins University. The work is well known in this country and in Europe as an authority upon the subjects treated, and has been copyrighted in the United States under the Interim Copyright Act.

NEWER REMEDIES.

Quinine Without Ebriety.—When two such well-known drugs as antikamnia and quinine are offered to the profession it hardly seems necessary to indicate the special classes of affections which call for their use. Antikamnia is unquestionably a perfect substitute for morphine for internal administration. It has complete control over pain, while it is free from the undesirable after-effects of the alkaloid of opium. In cases of malarial fever the combination of antikamnia and quinine should be given as a prophylactic and cure. For all malarial conditions, quinine is the best remedy we have. But, associated with this condition, there is always more or less pain, and antikamnia will remove these unpleasant symptoms and place the system in the best condition for the quinine to do its work. There are a number of ailments, not closely defined, which are due to the presence of malarial poison. All such conditions are greatly benefited by the use of "Antikamnia & Quinine Tablets," each tablet containing 2½ gr. antikamnia and 2½ gr. sulph. quinine. The antikamnia in these tablets not only relieves the pain, but prevents the ebriety or ringing sensation produced when quinine is administered alone. In headache (hemicrania,) in the neuralgias occurring in anaemic patients who have malarial cachexia, and in a large number of affections more or less dependent upon this cachetic condition. the regular administration of these tablets is indicated.—*Medical and Surgical News.*

Some Facts About Sanmetto.—Sanmetto is a combination of the virtues of santal and saw palmetto in a pleasant menstrum of aromatics. In your practice you will find many diseases and diseased conditions in which Sanmetto will be indicated. I will name some of these diseases, and you will have to prescribe this remedy. Be careful as to diet and exercise as you would in prescribing any other remedy, and you will soon find it the best friend you ever had. Cystitis, both acute and chronic;

enlarged prostate, with its usual irritation of neck of bladder and sensitive urethra; urethritis, both specific and non-specific; impotence, either due to excess or premature decay; and simple irritation of any part of the genito-urinary tract. It is also a great aid in treating many diseases of the pelvic organs in the female. Also seminal emissions and prostatorrhea, hematuria and enuresis are well treated with this remedy, except where surgical interference is necessary.

Orkney Springs, Va.

C. W. CANAN, M. D.

CALCIDIN.—Despite the text-books it is generally allowed that there is a distinct membranous croup and a diphtheritic croup. In the latter there is a profound systemic toxemia; in the former the local symptoms are the main consideration. One is a catarrhal disorder, the other a specific disease due to the presence in the system of the Klebs-Loeffler bacillus. In croup of the catarrhal type, calcium iodized (Calcidin) has proven itself to be practically specific. In diphtheritic croup it is, however, only a useful adjunct to other treatment. If membrane forms and there is no profound systemic disturbance; if the temperature does not rise and the disorder has distinct catarrhal form, then Calcidin in doses of gr. 1-3 every one-fourth to one-half or one hour will do prompt work. Give it powdered on the tongue and follow with a few swallows of hot water, or make a fresh solution for each dose, or every few doses. The same directions apply to simple croup but here the remedy should be pushed at the first sign of "crouping, and it will be found to be promptly abortive. If there be any possibility of diphtheritic infection antitoxin should be used promptly. Calcidin is the remedy *par excellence* for bronchial disorders and moreover wherever iodine is indicated internally it is the best form of the drug we possess, as it never causes iodism. Literature and samples of Calcidin will be sent on request to the Abbott Alkaloidal Co., Ravenswood, Chicago, Illinois.

TREATMENT OF FELONS.—Felons are classed as minor surgery and yet many a finger has been lost through their careless treatment. Antiphlogistine is a specific in incipient cases. Apply hot, change every 6 or 8 hours and resolution will as a rule occur without the formation of pus.

If pus has already formed incise deeply and freely. Thoroughness is essential. Evacuate and cleanse with a suitable antiseptic. Insert a drainage tube. Surround the finger with Antiphlogistine. Cut the drainage tube ¼ inch above the surface of the Antiphlogistine. Cover all with absorbent cotton and a bandage. The results will be satisfactory.

Dr. H. B. Shade, late editor North American Medical Review, in an article as to how to manage nervous and spasmodic affections successfully, (Medical Progress) in part says:

All I think of taking with me on a night call is bromidia and papine, in addition to my pocket case. It matters not whether I find a case of cramp colic, hysteria, spasms, insomnia, dementia, hypochondriasis, croup, spasmodic asthma, abortion, a fracture, neuralgia, rheumatism, cholera infantum, or what not, for in bromidia I find a remedy that can be relied upon in all cases where the muscular, mucous, or nervous system are out of harmony. In many cases I find papine should be prescribed with bromida where severe pain accompanies nervous conditions, insomnia, appendicitis,

cramp colic, fractures, surgical operations, etc. In all cases where morphia is indicated, I find in many cases insomnia and nervous conditions accompanied by pain, incident to rheumatism, etc., bromida and papine act admirably, given teaspoonful doses before retiring. No bad effects follow, no constipation, no nausea, no checking of the secretions, so that the business traffic of the system is not interfered with whatever.

WHERE TRUE QUALITY IS SHOWN.—The excellence of Scott's Emulsion is recognized by the highest authority. The *London Lancet* said of it: "The value of the hypophosphites combined with cod liver oil, especially in wasting diseases and debilitated conditions, is well known. In addition to these constituents, Scott's Emulsion also contains glycerine, which is well recognized as assisting very materially in the absorption of oils and fats. We have examined the preparation with care, and find that it fulfils all the requirements and presents all the conditions of a very satisfactory emulsion. In appearance and consistence it is not unlike cream, and under the microscope the fat globules are seen to be of perfectly regular size and uniformly distributed. In fact, the preparation, microscopically examined, presents the appearance of cream. So well has the oil been emulsified that even when shaken with water the fat is slow to separate, the liquid then looking like milk. The taste is decidedly unobjectionable and is pleasantly aromatic and saline. We had no difficulty in recognizing the presence of the hypophosphites in an unimpaired state. The Emulsion keeps well even when exposed to wide changes of temperature. Under the circumstances just described the Emulsion should prove an excellent food as well as a tonic."

MENOPAUSE.—Preceding and succeeding the final cessation of ovulation and menstruation, physical and psychical disturbances of a more or less serious character are frequently observed. Ergoapiol (Smith) because of its tonic effect upon the female generative system and its splendid antispasmodic influences, is of unsurpassed value in the treatment of the various disturbances incident to this period.

Latent rheumatic conditions are now more prevalent on account of an exceedingly cold and damp spring, causing many recurrent cases of rheumatism, neuralgia, and grippe, for which Tongaline Liquid is the standard prescription.

Tongaline and Lithia Tablets are particularly indicated in diseases which are caused by deposits of urates in the tissues, especially in the joints and in the kidneys.

Tongaline and Lithia Tablets can be prescribed with the greatest benefit for many people who indulge in generous or intemperate habits of living, as this combination will promptly and thoroughly eliminate any excess of uric acid in the system.

An unusually cold and damp spring is always conducive to the development of much malaria for which Tongaline and Quinine Tablets are almost a specific, Quinine for the fever, Tongaline for eliminating the poisonous secretions.

ERGOAPIOL (Smith) may be implicitly relied upon to promptly relieve the most intractable forms of amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia, or, in fact, any disturbance of the menstrual function arising from a disordered condition of the organs of regeneration. It is an emmenagogue of incomparable excellence.

BOOK REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1905.—A Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A. M., M. D. In two volumes, Volume I including General Medicine; Volume II, General Surgery. Two octavos of about 700 pages each, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1905. Per volume, cloth, $3.00 net; half morocco, $3.75 net.

The 1905 issue of Saunders' American Year-Book of Medicine and Surgery fully maintains the pre-eminent position which it long ago established. Dr. Gould, the editor, has associated with him a staff of men of the greatest ability, shown in the conscientious thoroughness with which each article is prepared. Here the practitioner has placed before him, and at a very moderate price, the cream of all of the medical literature published during the past year, and in such form that it is easily looked up. As a compendium of medical and surgical progress it will prove invaluable; for the practitioner anxious to keep abreast of the advances in the subjects treated it will be of the utmost assistance. The text, as usual, contains a number of illustrations of great value; there are also nine insert plates. We have found the work of the utmost assistance in keeping in touch with the manifold phases of medical literature.

TREATMENT OF PNEUMONIA IN ADULTS.—M. Manges says that the tendency is to forget that this is a general disease in which there may be great disparity between the local signs and the patient's general condition, severe cases sometimes giving evidence of but slight lung involvement and vice versa. So far, the attempts to devise a specific treatment have not been successful, and but little is to be expected in this direction, for the pneumococcus is not always a constant quantity, and various other organisms, including the influenza bacillus, which, of late, has markedly influenced the disease, may be present in mixed infections. The author's detailed discussion of the treatment is subdivided under the following heads: (1) To maintain life. The careful management of the stomach by a suitable diet to prevent distension and the consequent cardiac embarrassment of the highest importance. It is wiser to give too little food than too much and to avoid all carbonated beverages. (2) To support the heart. The best drugs for this purpose are strychnine, caffeine, alcohol, camphor and ergot. If prompt results are not obtained all the drugs should be given hypodermatically and in sufficient amount to exert their physiological action. Views as to the value of large doses of digitalis are still divided. Adrenalin, the precordial ice-bag, cupping and venesection are also useful measures. (3) To control hyperpyrexia. Large, flat ice-bags on the chest will be found useful, but care is necessary to avoid producing intercostal neuritis. Cold sponging and packs are of value, but must be used with caution, and cold baths are contraindicated. The rational use of coal tar antipyretics in small doses may contribute much to the patient's comfort. (4) To relieve suffering. The cough and pain are combated by the use of small doses of morphine hypodermatically, or of heroin hydrochlorate. The Paquelin cautery is of great value for the pleuritic stitches. Oxygen is probably of less value than is generally supposed. Every effort should be made to secure as much sleep for the

patient as possible. (5) To control complications. Pleurisy with effusion, empyema, pericarditis, endocarditis, etc., require the treatment ordinarily pursued.—*Medical Record,* December 10, 1904.

PARALYSIS AGITANS.—Hyoscine gr. 1-500 to 1-250 alone gives relief and the doses need not be increased.—*Brunton.*

Out of 66 drugs examined in Massachusetts 43 proved to be of standard quality. Castor oil contained cotton seed oil, 50 per cent.

When the os is rigid and opens slowly, pains exhausting woman uselessly, give a full dose of morphine to secure sleep. A full dose of morphine at beginning of tedious labor saves the woman's strength while the labor progresses as if awake.

CALCIUM SULPHIDE IN DIPHTHERIA.—Tissot employed calcium sulphide in a series of 137 cases of diphtheria, all confirmed by bacteriologic investigation that showed the presence of Loeffler's bacilli. Ten died, the rest recovered. Why did these die?

Five were brought in for treatment in such extremes that tracheotomy was imperative. The other five also all died within twenty-four hours of the beginning of treatment. Evidently these had received a fatal dose of toxin before treatment was instituted. The sulphide is not in any sense an antidote or an antitoxic. Examinations made by Tissot showed the presence of the bacilli in the exudate, but they were motionless. This explains the function of the sulphide—it is a germicide. But with every bacillus dead, the child may have absorbed a lethal dose of the toxin.

It will be seen therefore that neither of these four chief remedies replaces the other, or is to be compared with the others. Antitoxin neutralizes the toxin in the blood, and hurries the immunizing forces into action. Local antisepsis removes the bacillus-bearing membranes and stops the formation and absorption of toxin. Calcium sulphide kills the bacilli. Strychnine sustains the vitality.—*Alkaloidal Clinic.*

THE ISTHMIAN CANAL COMMISSION'S MISMANAGEMENT IN SANITATION.—Dr. Charles A. L. Reed, on his return from Panama March 1, filed his report with the Secretary of War, aid the report is printed in full in *Journal A. M. A.,* March 11. Dr. Reed states that he was given every facility to study the condition of organization and the details of administration as they relate to the public health interest. He says that he was impressed with the efficincy and zeal of the sanitary staff and with the fact that much has been accomplished in the way of sanitation, but states that much remains to be done which cannot be done unless better facilities ore afforded. He states that the governments of Panama and of the United States both recognize the importance of efficient sanitation. At the meeting of the Commission held at Ancon August 28, 1904, Mr. Grunsky, as the committee on a proposed health department, presented a report which began by stating that "After repeated conferences with" Colonel Gorgas and with practically the entire sanitary staff, "it has been agreed," but which should have stated that "in certain important particulars Mr. Grunsky has agreed with himself," for much of the report was formulated over the respectful protest of the medical men who were invited to the conference. By this report, the Commission, more especially Mr. Grunsky, provided for the creation of a board

of health, with power to formulate regulations, which would become effective only after approval by the Commission; or in cases of emergency, only on approval of the governor of the canal zone. Thus the chief sanitary officer had his discretion limited to the enforcement of regulations which had first been adopted by the Commission or by a board of health, in which latter event it had to be sent generally to Washington to be endorsed by the Commission, or in cases of emergency, might be approved or rejected by the governor of the zone. It thus came about, says Dr. Reed, that the chief sanitary officer whom and whose department the medical profession had asked to be made largely autonomous, and which the President himself had obviously intended to be so, became, by action of the Commission, more especially of Mr. Grunsky, subordinated to the governor of the zone; to the chief disbursing officer; to the chief of the bureau of material and supplies; to Mr. Grunsky; to the Commission; to the Secretary of War; to the President; subordinated, in fact, in the seventh degree from the original source of authority, and this, says Dr. Reed, is the state of affairs on the Isthmus to-day. Dr. Reed states that if the superintendent of the Ancon Hospital makes a requisition for supplies, he must take it for approval to the chief sanitary officer; then to the governor of the zone; then to the chief disbursing officer; whence it goes to the Commission at Washington; then to Mr. Grunsky as committeeman; then back to the Commission; then, if allowed, bids are advertised for; awards are made; the requisition is filled under the supervision of the purchasing agent notoriously ignorant of the character and quality of medical and surgical supplies; the material is shipped to the Isthmus; consigned to the chief of the bureau of material and supplies; who notifies the disbursing officer; who notifies Colonel Gorgas; who in turn notifies the superintendent; who applies to the quartermaster—"the boss of a corral—for transportation, and so much of the stuff as in the judgment of first, the governor, next the chief disbursing officer, next the commission, next and more particularly Mr. Grunsky, ought to be allowed to the superintendent of the hospital, finally arrives or does not arrive at its destination, and this Dr. Reed says, is no fanciful picture; and what is true at Ancon Hospital is true at Colon, at Culebra, at Miraflores, and at all other points that require supplies of this description. In case of emergency, certain purchases are permitted to be made at Panama, but, of course, at greatly increased prices. Dr. Reed cites examples of the littleness of the Commission, showing how the Commission consumed its time with the minutiæ of administration that ought to have been entrusted to the men employed for that purpose. Dr. Reed states that the Commission visits on the sanitary department unnecessary and unreasonable restraints and confronts it with petty antagonisms, and he quotes instances showing how requests for necessaries have been treated. For instance, doors and windows for the hospital at Culebra were asked for in January, but are not in place. Materials for disinfection work were asked for last September; the Commission, more especially Mr. Grunsky, cut the estimate down to one-fourth, and sent the material in small lots from time to time. The Commission established interneships in the hospitals in the zone, incumbents to be paid $50 a month, the same salary that is paid to nurses, and in this way the sanitary department is without a sufficient number of experienced medical men. Before Colonel Gorgas went to the Isthmus he laid before the Commission a plan of campaign which embraced the following distinct features: First, the installation of a sewer system in the cities of Colon and Panama. Second, the installation of water supply in those cities. Third,

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ORIGINAL ARTICLES.

SCARLATINA VS. RUBELLA, ETC.*

By Ellis G. Roberts, M. D., Fair Haven, Vt.

Mr. President, and Gentlement of Vt. State Med. Society:

In choosing this subject to bring before you it was not my intention to confine my remarks strictly to the two diseases mentioned, neither did I have anything especially new to offer, but I was in hopes that the recounting of some experiences with a class of diseases more or less familiar to us all might provoke a little discussion which would tend to elucidate what occasionally proves to be a difficult problem, viz., the diagnosis of scarlet fever from the other exanthems, more especially from rubella, measles and scarlatiniform erythema.

During the last few years in my capacity as health officer, as well as a practicing physician, I have seen a number of cases of the eruptive diseases which have puzzled me as to their exact diagnosis, notably the two named in the caption, and which have also caused me more or less anxiety in their relation to quarantine. Because, if the disease is rubella or measles, only a *modified* quarantine of about two weeks is generally required, while scarlatina necessitates a *full* quarantine of from four to eight weeks with its attendant inconveniences and annoyances, besides the loss of time and expense it may entail. Therefore, I consider it of the first importance to be able to arrive at a correct diagnosis. Although at times, when the symptoms are very mild or obscure, it is a matter of some difficulty to differentiate scarlet fever from measles and the other rashes, especially scarlatiniform erythema, in my experience I have had more difficulty in distinguishing scarlet fever from rubella.

As a rule, the prodomal coryza, the suffused, watery eyes, the catarrhal symptoms, together with the papular, blotchy character of the rash and its appearance on the face, which has a mottled, swollen appearance in measles, is sufficient for its diagnosis.

Again, in scarlatiniform erythema, the eruption and fever, whether due to septic or toxic states, or to the action of drugs, though the rash may be intense and the temperature high for a short period, they are not accompanied by the constitutional disturbance met with in scarlet fever, and they generally subside much quicker.

In rubella on the other hand, we have a hybrid of measles and scarlet fever; the characters of the two disorders being more or less combined. Sometimes the symptoms of measles predominate, but very often those of scarlatina are most prominent. When, therefore, we get the rash of scarlet fever with perhaps a strawberry tongue, accompanied by vomiting and diarrhoea and the catarrhal symptoms obscure or absent, it would be a difficult matter to decide whether we had a case of scarlet fever or rubella.

When we have the sudden onset, the diffused scarlet rash, high temperature, and rapid pulse out of all proportion to the severity of the case, with inflamed tonsils and fauces, a strawberry tongue, restlessness and delirium, followed by desquamation and may be nephritis and otitis media, it renders the diagnosis of scarlet fever very easy. But when these symptoms are

*Read before the 91st Annual Meeting of the Vt. State Med. Soc.

very mild or obscure or some of them absent, it may be very difficult.

I believe it to be the general impression among medical men, that a rash, if accompanied by fever and a strawberry tongue, or that is followed by desquamation, is that of scarlet fever, but recent observers do not support this view. For myself, I believe it to be erroneous, as we may find both in other rashes.

A few years ago we had in our village a semi-epidemic of what was called scarlet fever, but I have never been satisfied it was such. Several cases were under my care, three of which developed very severe symptoms. The rash was intense, and undoubtedly scarlatine form in character, was punctiform and diffused over the entire body; high temperature (102° to 104°) and correspondingly rapid pulse, accompanied by restlessness and delirium; the tongue, at first coated, developed a strawberry characteristic; severe catarrhal symptoms, eyes, nose and throat affected, with intolerance to light, and a pronounced gastro-intestinal disturbance. These symptoms lasted four or five days, then rapidly subsided, much more so than is usually the case in scarlet fever of equal severity; a branny desquamation followed. Recovery was rapid without any complication or sequela, with one exception, in which case the catarrh extended into the middle ear.

Although they were quarantined as scarlet fever, I felt very certain that though the rash was the rash of scarlatina, the catarrhal symptoms were those of measles, and the combination formed a typical case of rubella, of severe type.

I never saw a brighter scarlet rash than in these cases except once, and then in a case of scarlatiniform erythema, which was the only time I had any difficulty in differentiating erythema from scarlet fever, and as it was an unusual case, I shall ask your indulgence to give a brief history of it. One evening a few years ago, I was summoned post haste to go and see a young man who had just arrived on a visit to his sister's who lived three miles out of the village. The message was very urgent, for the family were afraid he would die before I got there, as they thought he had erysipelas all over him. On arriving there I found the young man, a clerk, aged 21, literally covered from head to foot with a bright scarlet rash and looking actually "as red as a boiled lobster," temperature 104°; pulse full and bounding, but not extraordinarily rapid; throat slightly inflamed, but no great depression. I soon found it was not a case of erysipelas. The rash had broken out that morning on the train and he had walked three miles from the station. I was puzzled as to what I had to deal with. The onset was sudden, and the development of the rash rapid with high temperature, but it lacked the constitutional disturbance of scarlet fever of such severity. So I treated the symptoms, telling the family it would probably prove to be either scarlet fever or German measles. Early next morning I received a message asking me to make as early a call as I could, they were afraid he was mortifying. Getting there as quickly as possible, I found the patient much more comfortable, with a lower temperature (101°), but the rash which had so alarmed the family had changed to a dark, dusky, purplish hue, especially on the lower extremities, and looked exactly as if gangrene was developing. It was not surprising that they were frightened. It was enough to scare anyone at first sight, for I never saw anything like it before or since. Finding the circulation good, temperature lower, and patient feeling generally better, I thought of erythema and ventured to assure them that he would be all right in a few days. And so he was. On the third day the rash was all gone; tempera-

ture and color normal; patient feeling good and ready to get up. A slight furfuraceous desquamation followed.

About a year later I was called to see the same patient again, suffering from a similar attack, but not so severe. It developed after a five mile walk. He had called at his sister's on his way to Nebraska and he told me of his experience with a like attack at Schenectady five months before. The attending physician and health board had pronounced it scarlet fever and quarantined him for three weeks, though he was ready to go to work in three days. For that reason he felt very anxious for fear he might develop an attack on his way to the West and be quarantined, so I gave him a certificate certifying that I had attended him through two attacks of scarlatiniform erythema and requesting the withholding of a diagnosis for two or three days. I never saw the young man afterwards, and about a year later he died of acute pulmonary tuberculosis.

As already mentioned, great importance is attached to two prominent symptoms of scarlet fever, viz., the strawberry tongue, and desquamation, and I believe many consider them pathognomonic. But Prof. Jay F. Schamberg, of Philadelphia, in his paper read before the American Medical Association at Atlantic City, says: "That the most typical strawberry tongue may, in rare cases occur in affections other than scarlet fever. In a few severe cases of scarlatiniform erythema occurring during the course of smallpox, I noted very distinct strawberry tongues." Also Butler in his "Diagnostics of Internal Medicine" says in regard to the general diagnostic appearances of the tongue, that the so-called strawberry tongue is not pathognomonic of scarlet fever "as it may be present in other acute specific infections." The strawberry tongue may be seen in rubella and often in "Exfoliative Acute Dermatitis."

Desquamation may and does occur in other eruptive diseases besides scarlet fever, viz., in rubella, measles, erysipelas and especially in Desquamative Scarlatiniform Erythema, in which latter disease the skin is sometimes thrown off in very large flakes. On this point, to quote again from Prof. Schamberg's paper, he says, "The statement is sometimes made that the occurrence of desquamation after a scarlatiniform eruption proves the scarlatinal nature of the preceding exanthem. It is a mistake to regard every diffuse rash that desquamates as scarlet fever. The eruption of scarlet fever is in all probability of toxic origin; there are other toxins which appear to be capable of exciting rashes which resemble that of scarlatina, scaling is the terminal stage of certain pathological alterations in the skin, and the changes in the skin in scarlatiniform erythema are much the same as those occurring in scarlet fever."

He also stated that in scarlet fever the time of the onset of the peeling, its mode of progression, and its persistence was of more diagnostic value than the mere occurrence of desquamation. "Desquamation in scarlet fever is usually observed first on the face. This is often seen from the fourth to the sixth day; about the sixth day the same process is observed on the neck and upper portion of the chest. The hands ordinarily begin to desquamate from the twelfth to the fourteenth day. On the feet scaling may not commence until the third week."

During the months of April, May, and June of this year, we had in our own and neighboring town some dozen cases of scarlet fever. From data received, I judge three or four were of the ordinary type, the balance being mild or very mild. In one family, all the children, five in number, were attacked. One developed otitis media. These were the first and the only cases where I could trace the in-

fection. All the others were isolated cases living from three-fourths mile to three miles front, and not having any social or school association with the affected family. One of these cases was followed by albuminuria.

I had three cases under my care, two of which I was able to watch closely.

Case 1. A boy, 10 years old, was taken ill with fever, nausea, and some soreness of throat; temperature, 101°. Next day a rash appeared on upper part of chest and back with a few patches on forearms; it was papular and looked more characteristic of measles than scarlet fever; throat somewhat inflamed, the tongue, however, developed the typical strawberry character. By the end of the third day, fever and rash had all gone, as well as the soreness of throat, and he felt quite well. The strawberry tongue, however, persisted for three weeks. There was not the slightest desquamation, branny or otherwise, but I kept him and his mother isolated four weeks. Two other children in the family were not affected.

Case 2. A boy between three and four years old. This patient was not sick enough for his mother to think of calling in a doctor, until an elderly neighbor happened in and saw his tongue, and said it looked like the tongue of scarlet fever, which alarmed the mother, and I was sent for. The mother said the boy had been a little out of sorts for a couple of days, but not confined to the house. Had noticed some rash on chest the day before, but took it for "prickly heat." When I saw him, he had no fever, no sore throat, and the rash had almost disappeared, but the tongue was decidedly "strawberry." With exception of slight enlargement of a few glands back of the ears near edge of the hair and the strawberry tongue, there were absolutely no other symptoms during the two weeks of involuntary seclusion I imposed on him and his mother, nor the slightest desquamation from seat of rash. Three other children of the family did not develop the disorder.

Case 3. A boy 4 years old. This case was even more obscure than cases 1 and 2, as the mother never noticed any rash whatever. Had been ailing off and on for about ten days when I saw him, but was out every day playing with the children. He complained at first of some sore throat and a tired feeling in the afternoon, with loss of appetite, which had not returned. But, there was a distinct strawberry tongue somewhat on the wane. That, with a slight disturbance of the stomach were all the symptoms I could find. Although a number of children were exposed by this case, I did not hear of any of them being infected.

To be on the safe side, I have heretofore classed a rash, accompanied by fever and a strawberry tongue, as scarlatina, but often with a doubt whether they were really such in fact.

In the cases mentioned the only symptom suggestive of scarlet fever was the character of the tongue, as the rash might have passed for that of rubella or measles. And further, the strawberry tongue may be seen in other eruptive disorders, therefore, the question arises, whether that single symptom is enough to justify us in calling it scarlet fever.

I am aware we may have scarlet fever without the fever, or it may occur without sore throat, or the rash may be absent. These are the cases that are apt to be overlooked, and it is my experience with these mild and obscure cases that prompted me to present this paper with the hope that some light would be shed by the discussion to aid us in the diagnosis of the type of cases we have so often met with in the last few years.

No more healthful, stimulating and generally beneficial application can be made to a diseased mucous membrane than Kennedy's Pinus Canadensis.

INSOMNIA, WITH SPECIAL REFERENCE TO THIS CONDITION IN NERVOUS AND MENTAL DISEASES.*

By Clayton G. Andrews, M. D., Waterbury.

In this paper it will not be my purpose to enter into any abstract discussion of the phenomena of normal sleep nor to attempt to philosophize upon the subject other than to review a few of the basic principles which must be present in order that proper sleep may be obtained and if by reason of disease, organic or functional insomnia is present, how it may be combated.

The physician recognizes fully the need of a certain number of hours of sleep out of every 24 by the human organism. We allow that each constitution is a law unto itself, in a general way, of how much sleep is required for the proper maintenance of its own equilibrium, and if for any reason the organism is deprived of the rest and sleep, which is *its* due sooner or later, it must suffer the consequences.

The physician understands that it is often difficult to secure a correct statement from the patient in regard to the amount of sleep obtained for one will often say, "I did not sleep at all," when from being awake portions of the night. They really feel that they were awake all the time. Total loss of sleep is a rare condition, and when it is met it is necessarily a serious thing and unless it can be remedied leads rapidly to a fatal issue. Hammond describes a case which succumbed the 9th day. Moderate deprival of sleep is a symptom important enough for us to take intelligent cognizance of and in a rational manner to investigate the causal factors whether the condition is due to morbid physical, nervous or mental alterations. The causes determined, and properly treated, will gradually and perchance permanently remove the effect. Henry Lyman in his admirable book on Insomnia and the Disorders of Sleep, treats the subject of Etiology of Insomnia under two great heads.

I. Insomnia caused by irritation of the peripheral portions of the sensory apparatus.

II. Insomnia caused by morbid states of the central nervous organs.

Under the first head the subject is treated under three sub-divisions:

1. Affections of the organs of special sense.
2. Affections of the nerves of common sensation.
3. Affections of the sympathetic nerves.

And under the second, the sub-classifications:

1. Disorders of circulation and nutrition.
2. Inflammations and degenerations.
3. Neoplastic encroachments.

Dr. Bradbury in Albut's System of Medicine divides the causes of insomnia into four classes. 1. Irritative. 2. Toxic. 3. Psychical. 4. Causes arising from changes in the mode of life.

Under irritative causes we may consider the sleeplessness due to pain and allied conditions—teething of children, indigestion, eyestrain, as in astigmatism, the irritation of eczema, the disturbed breathing as in the presence of adenoids. Following surgical operations, possibly when no real pain is experienced the patient may be wakeful from awkward positions, from dressings or appliances, or largely from psychical disturbance.

In this classification also, comes asthma, bronchitis, etc., where sleep is lost by reason of cough or dyspnoea but affections accompanied by intense pain are particularly in evidence. Neuralgia, sciatica, migraine, angina pectoris, aneurism, locomotor ataxia, acute inflammatory conditions of serous membranes,

* Read at 91st Annual Meeting of Vermont State Medical Society.

periostites, pleuritis, pericarditis, meningitis, in these diseases and many others there are numerous etiological factors but pain is the leading one causing the loss of sleep. Under *toxic causes* may be considered a large number of diseases due, directly or indirectly, to toxic agents in the blood.

Alcoholism—many of the exanthematous diseases, enteric fever, erysipelas, influenza, rheumatism, gout and Bright's disease. The sleeplessness accompanying cardiac disease—and changed conditions of the vascular system as in arteriosclerosis are classified here as they primarily seem caused by poisoned conditions of the blood, as well as altered cardiac action.

Psychic Causes embrace the wakefulness of the neurotic, worry, anxiety "fidgets," that of neurasthenia hypochondriasis, etc., excessive mental application and business cares.

I would also mention here the insomnia of women at the menopause. In the insomnia of the various forms of insanity we have the most intractable obstacles to be overcome and it seems to me that we have the same conditions to overcome in the case of drug habitues.

Among the insane, aside from occasional physical causes, the presence of vivid hallucinations or troublesome delusions as well as possibly great psycho-motor restlessness and pressure of activity, making sleep difficult of acquisition.

There is another class of causes met with in general practice. Those arising from change in the mode of life. One unused to society functions and late dinners, partakes of such, or perchance changes his abode to a different climate, often complains of insomnia, likewise one who changes his duty from night to day, or vice versa, finds it difficult to obtain the required amount of sleep under the reversed circumstances—again suddenly taking up some very active physical work by one unaccustomed will often be sufficient cause for troublesome insomnia.

In a careful analysis made by Dr. Folsom, based on notes made from his own cases, quoting from Tuke, the principal causes of insomnia are as follows: Habit, reflex causes, as indigestion, genito-urinary disorders, autotoxic causes, as gout, lithaemia, syphilis, habitual constipation, anaemia, vaso-motor changes, neurasthenia, hallucinations of sight and hearing, astigmatism, the strain of the eye which in health will be unnoticed, produces in states of debility, headache, dizziness, spasmodic muscular action or wakefulness, and neurotic temperament.

Considering now the treatment of insomnia. This should be aimed at the removal of the cause. External irritative causes should be looked after. The glare of light from a window or vivid reflections on walls or the glare from artificial light, removed will sometimes be sufficient to restore sleep—a thing too often lost sight of by nurses—quiet restored will induce sleep, when broken by reason of noise—a proper modification of the extremes of heat and cold frequently needs attention. The broken sleep of one in a super-heated room and the headache and lassitude following it is sufficient to emphasize this point. Extreme cold on the other hand militates against restful sleep.

In the quite large class of patients who complain of habitual loss of sleep, the habits of the person and the conditions under which an attempt is made to secure sleep can well be looked into. Such cases may by very simple means re-establish restful sleep. A quiet bedroom, one moderately heated and well ventilated, a cool or tepid bath on retiring, massage of the extremities by drawing the blood to the surface, causes, it is believed, temporary anaemia of the brain, thus favoring sleep. Cold feet should be attended to by hot foot

bath or hot-water bag, light digestible suppers should be taken, and by those troubled by awakening in the night, a drink of hot milk or malted milk will sometimes restore sleep. Indigestion appearing as a cause, should be met with therapeutic measures adapted to that part of the alimentary canal which is at fault. Insomnia from excessive mental work requires relaxation from the brain activity and interjecting a change of scene, and change of duty and exercise. In the case of the brain-worker, it is his only remedy for sleepless nights, excited nerves, fluttering heart, irritability of temper and difficulty of digestion.

There is no prescription more effective in such cases than rest. In the field of hydro-therapeutics there are many measures very useful, rational and practical. For general sedative and hypnotic effect, the general warm bath is of value, given at bedtime and continued from 30 minutes to two hours—temperature of bath 92° to 97°. The wet-sheet pack attains practically the same purpose. The temperature given should be 70° to 75°, a sheet wrung from this, quite dry and wrapped about the patient, this wrapped about with blanket, not too warmly to avoid excessive perspiration. Warm application to the abdomen acts as a brain sedative—the heating compress used in this way is said to be much used in Germany. The wet sheet pack is effective in cases of insomnia due to nervousness.

The hot pack is of great value to mania and maniacal outbreaks in any psychosis, often accomplishing what medicines will not. The technique for giving the hot pack is much the same as for the wet sheet pack, the temperature of the water used should be 110° to 120°, it is well to give a dose of whiskey a few moments before beginning the operation, particularly in the case of patients physically depleted, where cardiac depression is observed. Kellogg recommends the application of the cold compress or coil over the region of the heart during the process of administering the pack. The duration of the pack should not exceed one-half hour.

In the delirium of typhoid when tubbing is not advisable or practicable, the wet sheet method administered at a temperature of 70° to 75° can be well employed. Insomnia due to spinal irritation is relieved by the spinal pack which can be used with very little trouble. An ordinary towel wrung out of water at 60° folded and applied the whole length of the spine, after first rubbing the skin in that locality until it is reddened, by the hand dipped in water at 50°—over the towel several layers of flannel should be applied, and external to that a mackintosh, the results claimed are, first, strong fluxum in the spinal vessels, then hyperaemia of the skin, whereby the spinal cord is depleted.

If the impervious covering is maintained the superheating of the skin finally produces an accumulation of blood in the spinal vessels, consequently, this method can be adapted either for the condition of anaemia or hyperaemia of the cord.

The hot pack above referred to is extremely useful in the prolonged excitement and sleeplessness of the maniacal, and properly administered by a competent nurse is frequently more successful than large amounts of hypnotic drugs, witness the quiet, restful sleep of one, two or three hours following such procedures in the case of a noisy, violent and destructive patient, who has been wearing himself, as well as his nurse by this protracted excitement, often, it would seem, that the balance had been turned in the favor of the patient by such a process. It is not altogether uncommon to see a patient awaken, refreshed and with the flight of ideas, intense pressure of activity and possibly the hallucination, for

a time at least, less in evidence. Thus far, I have referred particularly, to some of the non-medicinal methods of treating insomnia and I regard this side of the treatment of no less importance than the strictly Medical.

In the general sleeplessness of the mentally over-worked or those deprived of sleep by reason of care, anxiety, or worry. Two of the best remedies which I have observed the action of are Trional and Sulphonal administered in 15 to 20 gr. doses with hot water on retiring or better an hour before—the sleep following this treatment, is as a rule refreshing and void of bad after-effects, rarely, a patient will complain of drowsiness the day following—this treatment in many cases will overcome the habit of sleeplessness. I regard Trional with more favor and have seen no ill effects even when administered to patients with heart-lesions.

In cases of Melancholia the persistent insomnia is by no means successfully combated by the use of hypnotics alone. Treatment here must be aimed at the dyspepsia, constipation and anorexia, which are nearly always in evidence. Sleep and hunger are incompatible. In this class of mental affections, the amount of food taken is habitually less than the body needs to supply waste, the foundation for refusing food may be from delusions of poisoning, or it may be from a feeling of unworthiness—or from actual suicidal intent—from any of these causes—the body deprived of its food and this is sufficient reason to cause the insomnia to persist. Some of these cases, which have gone with insufficient nourishment for days and weeks will enjoy a comparatively restful sleep following a copious feeding—which may have to be urged or even forced by means of the feeding tube, these very same cases having possibly been given large doses of the ordinary hypnotics with little benefit. The constipation often improves as the proper ingestion of food is established.

In addition to the feeding, exercise in the open air should be insisted upon. If the patient is unable to walk, riding should be employed. Sleep may often be induced by a long drive in the open air.

The opiates seem to have fallen into disrepute in cases of depression, although useful in the hands of some. Recourse may be had to the Bromides, Chloral, Hyoscyamine or its Alkaloid Hyoscine, or Cannabis Indica, the last named combined with the Bromides is recommended by Clauston, given as follows: Tt. Cannabis Indica, Mx. and Potassium Bromide grs xx.

In maniacal outbreaks in periodic cases or those having attacks of frenzy, as well as in the psycho-motor excitement of epilepsy, I have seen pleasing effects from the use of Hyoscine Hydrobromate 1-100 gr. given by stomach every 4 hours which seemed to quiet the excitement and in addition to 15 to 20 grs. of Trional given one hour before retiring for the strictly hypnotic effect.

Hyoscine, according to Wood, unlike Hyoscyamine does not depress the heart noticeably nor paralyze the vagi. I have never seen unsalutary after effects from its use, nor any disturbance of the alimentary tract.

Conium in combination with Hyoscyamus helps some cases where other drugs fail, and another combination worthy of trial is Chloral Hydrate and Potassium Bromide. I have observed pleasing results following a bed dose of Chloral Hydrate and Potassium Bromide of each grs. xv. When sleep can be induced by Chloral in small doses, it is refreshing and much like the normal. In low states of vitality Chloral should be administered with caution, large doses are sometimes advised, but Clauston in his large experience always gives small

doses 10 to 25 grs. I have in mind a case of Acute Mania which secured quiet and sleep, only from the following dose: Fl. Ext. Hyoscyamus. Fl. Ext. Conium and Chloral Hydrate of each grs. xv repeated as required—this case had a long excitement but made a good recovery.

Relative to the hypnotic effect of Chlroetone we have not had signal success with its use, although better results have been observed, in cases not insane, here 10 to 15 grs. given at bedtime has been quite satisfactory.

For the past two years we have used Dormiol as a general hypnotic in a variety of mental diseases, with very good results. Brownrigg has tabulated the results on 100 cases representing different mental conditions—at the N. H. Asylum for the Insane, and his conclusions speak highly for this drug—sleep being induced from 15 to 45 minutes after administration and sustained from 3 to 8 hours, no ill effects on the circulation or digestion. This drug is put on to the market by Merck in 50 per cent solution—it is administered in 10 per cent sol. and given in doses of two to four drams of the latter solution at bedtime.

Generally speaking the treatment of insomnia should be directed, as I have indicated toward the removal of all special causes for the condition, directed toward the regulation of habit, diet, and occupation.

Irritation removed, pain soothed by anodynes, cerebral excitement reduced by sedatives or by non-medicinal agents as indicated, localised and general disease treated according to indications,—the goal to be attained is a re-establishment of the general physical and mental equilibrium.

Cannabin is a useful remedy in many forms of pain; associated with atropine it often makes morphine unnecessary.—*The Alkaloidal Clinic.*

TREATMENT OF DIPHTHERIA.*

By John W. Estabrook, M. D., Brandon.

The patient ill with diphtheria should be isolated as far as possible in a separate room. Those caring for the sick should wear a special outer garment; before leaving the room the gown should be removed and the hands washed and rinsed in an antiseptic solution. Everything soiled by the mouth discharges should be disinfected by a strong disinfectant, by boiling or preferably by burning.

The disposal of the healthy members of the family is of great importance. They frequently have become infected so it is unsafe to let them out to expose other families, but with proper precautions it can and is sometimes done.

Those who have been exposed or those who are confined to the house with the patient should cleanse the mouth, throat and nose several times daily, with a mild solution like Dobells or 1 to 10,000 bichloride of Hg.

It is now customary to give an immunizing dose of antitoxin, say from 200 to 500 units. If it is true as one authority has said, that 200 different species of bacteria find a happy home in the aural cavity, then this fact alone should make all parents attentive to the physiologic condition of the mouths of their children.

The patient should be kept in a room exposed to sunlight and plenty of fresh air at a temperature of 70° to 72°, as the diphtheritic germs grow well in damp, poorly lighted chambers. If possible, the patient should use two connecting rooms, one for day and the other for night, so one can be thoroughly aired while the other is in use. Keep in bed even in mild cases and especially where there is much cardiac depression well into convalescence. If one could destroy all the diphtheritic bacilli in the

*Read before the Rutland Co. Medical Society.

parts affected by local application, the disease might be aborted and its extension to other parts prevented. The best authorities seem to agree that the benefit of local applications is limited, and for the following reasons: The diphtheria bacilli are not limited to the exact spot where the membrane appears. They are present in the throat secretions before even the local lesions are manifest. Lying as they do in the crypts and recesses of the parts, we can plainly see they cannot all be reached by such antiseptics as we attempt to apply to them. Then again, only the mild cases are accessible to local treatment. In a series of experiments carried on by Drs. White and Somerset in the New York hospital for contagious diseases, to test the values of nasal and throat irrigation with simple cleansing solutions and with disinfectants (1 to 4,000 bichloride) or (5 to 10 volumes of hydrogen dioxide), after a thorough trial only a slight difference was seen in favor of antiseptic solutions. If we use caustics or too strong solutions we are apt to injure the tissues without killing the bacteria, thus we might do more harm than good.

This is also true of swabbing the throat when done carelessly or by the inexperienced but when used should be done by the trained nurse or physician. The general opinion seems to be in favor of weak solutions, a normal salt solution or a 1 to 10,000 bichloride or a neutral 5 volume solution of hydrogen dioxide, the last is considered the best for nasal or pharyangeal diphtheria.

GENERAL TREATMENT.

The drugs suggested for the treatment of diphtheria are many but few have proved of any real value generally. With the exception of antitoxin, none are specific. For diet they are given, if the case is mild, an abundance of light food, milk, broths, eggs, etc., and a dose of 1,000 to 2,000 units of antitoxin. In severe cases brandy or whiskey should be used, from ½ oz. to 2¼ oz. in the 24 hours. There is nothing better to control the nervous centers and circulation. Stimulation should be begun as soon as there is a certainty of diagnosis. The indications for its use are marked prostration, feeble pulse, and a weak first sound of the heart. Adjust the amount to age and gastric condition of the child; as a rule, the stimulant should be mixed with the food as the patient may rebel against taking food and stimulants too. Strychnine stands next to alcohol in importance and usually is given in too small doses. For a child 4 years old 1-30 gr. may be given every 6 to 8 hours. Aromatic spirits of ammonia is valuable for rapid effects in syncopal attacks.

Holt recommends for threatened heart paralysis occurring late in the disease, hypodermics of morphine, the drug being given in full doses and repeat every 2 hours, keeping the child under its influence for some days. In laryngeal diphtheria the breathing can be much relieved by inhaling the vapor of slacking lime or calomel fumigation. The signs of actual stenosis, as shown by stridulous breathing and cyanosis, etc., calls for intubation or tracheotomy. I will not discuss the relative values of intubation, and tracheotomy, as few of us in the country have the sets, necessity of haste would demand that we perform tracheotomy in many cases. Whatever means we use, which will depend on our time for preparation, the object is to overcome the obstruction to the entrance of air through the larynx and thus prevent suffocation until the antitoxin can get in its work.

The time at which intubation should be performed is a question of great importance. When we have use of antitoxin it is considered better practice to wait until marked symptoms of stenosis occur, provided the patient's condition is favorable, in the hope that the serum

may do away with the necessity for operation. The symptoms calling for intubation are progressive dyspnoea, labored breathing and cyanosis, retraction of the tissues about the epigastrium and clavicles, diminished respiratory murmur over the lung bases, physical depression and a failing pulse.

The experimental stage of antitoxin has passed, and its use is now as firmly established as is that of vaccine as a preventive of small pox.

It seems to act by neutralizing the poison produced by the bacillus and thus render it inert and powerless to do injury.

The best results are seen when given early in the disease before marked changes have occurred. When thus given in sufficient amount the mortality is less than 4 per cent. In fact, it is rare for them when thus treated to die.

As regards dosage, you are all more or less familiar, it ranges from 1,000 units in mild cases to 5,000 in severe symptoms, the condition of the patient to be your guide. If at the end of 12 hours, the inflammation is advancing or has not commenced to subside then another dose should be given and if still obstinate a third dose after 24 to 36 hours. I think it is interesting to note that as much as 60,000 units have been given in a single case so the amount we can use is practically unlimited.

THE IMPORTANCE OF VITAL STATISTICS.*

By J. W. Jackson, M. D., Barre.

The statistics of vital life, the science of numbers as applied to the life of communities and nations.

At the meeting of the American Medical Association, held at New Orleans, May 5th to 8th, 1903, very important action was taken on the subject of vital statistics.

*Read before the Washington Co. Medical Society.

The association had been much interested in this matter from its earliest years, and it had already brought about a considerable degree of co-operation among registration offices before the breaking out of the Civil War. The last report of its committee on Vital Statistics was made at the session of 1859, and the work thus interrupted, was not resumed until the last meeting, when the important duties were assigned to the Committee on Public Health, and the full endorsement of the principles of co-operation proposed and promises for the efficient, organized action of the Medical profession of the country in this most important movement.

The following resolutions give us an idea of the official actions to date:

Whereas, The Congress of the United States has recently passed the following joint resolution, which was approved by the President, February 11th, 1903.

Joint Resolution, Requesting State Authorities to Co-operate with Census Officer in securing a Uniform System of Birth and Death Registration.

Whereas, the registration of deaths at the time of this occurrence, furnishes official record, information of much value to individuals, and,

Whereas, the registration of births and deaths, with information on certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease, and in devising and applying remedial agencies, and,

Whereas, All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general law, and,

Whereas, Registration in the United States, is confined to a few States, as a whole, and the larger cities, under local laws and ordi-

nances, which differ widely in their requirements, and,

Whereas, It is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records, and,

Whereas, The American Public Health Association and the United States Census Office are now co-operating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements, of legislative enactments, designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the legislative authorities in non-registration States, with the suggestion that such legislation be adopted.

Now, Therefore, Resolved, By the Senate and House of Representatives of the United States of America in Congress Assembled, That the Senate and House of Representatives of the United States hereby express approval of this movement and request the favorable consideration and action of the State Authorities, to the end that the United States may attain a complete and uniform system of registration.

In consideration of the above, the following was accepted by the American Medical Association:

Whereas, The adoption of this resolution and its effective execution mark the beginning of a vast improvement in the value and usefulness of the vital statistics of this country, and for which purpose the recent publications of the Census Office are most admirably adopted. Therefore,

Resolved, That the American Medical Association heartily welcomes the action of Congress, in promoting the adoption of complete and uniform systems of registration of vital statistics in the United States and congratulates the American Public Health Association and the United States Census Office on their useful and effective co-operation for this purpose.

Resolved, That the American Medical Association strongly urges on the State Medical Societies that special committees be appointed to advocate and secure the passage of satisfactory registration laws in States that do not at present possess them, that County Societies support and aid in the execution of such laws as far as possible and that, physicians individually, throughout the United States, endeavor to promote the accuracy and value of mortality statistics by giving clear and definite statements of causes of death on certificates of death.

Following these recommendations, the Michigan State Medical Society at its session held at Detroit, June 11th to 12th, took early action and was probably the first State Medical Society to respond to the call for aid in this important work, and adopted the following:

Resolved, That the Michigan State Medical Society heartily welcomes the action of the American Medical Association in commending this matter to its attention, and hereby constitutes a permanent committee on vital statistics to consist of three members, appointed by the President, to carry out the above action, and more especially in regard to the passage of a satisfactory law for the registration of births in this State, the regulation of deaths having already been placed upon a proper footing, through laws passed at the instance of this Society.

Resolved, That it be the duty of this committee to study the essential requirements of the registration of births, to interest the County Societies and secure their co-operation and to report a draft of a bill at the next annual session of this Society, which after approval, may be introduced in the Legislature.

What action, if any, was taken by our State Society at its last meeting in October, I am at this time unable to state, but we are following the International Classification and are surely not much behind in this work.

What do Vital Statistics teach us? I will mention a few facts, collected from them.

That not more than 50 per cent. of all babies born into the world would reach maturity; and that does not include the large per cent. of still-born, premature and abortives, who never see the light.

That in England there is one death in every five births, before the child is one year old.

That in France, 22 per cent. die by the end of the first year.

That in Greater New York, with a birth-rate of about 75,000, nearly 20,000 die the first year.

That in the home of antitoxin, Berlin, Germany, the lowest death rate ever recorded for diphtheria was reached in 1901, it being 469, where before the use of Prof. Behring's serum, the deaths from this disease ranged from 1,300 to 2,600 a year. And in all but one of the Berlin hospitals, the mortality was 64 per cent.

That in Massachusetts before the days of State antitoxin, the fatality was 28.3 per cent. With State antitoxin and at the Boston City hospital, years 1895-1902, it was 13.6 per cent. And further the rate, if given in the first two days of illness, was only 6.6 per cent., while if not given until the 6th day or later, the death-rate was 17.8 per cent. And the death-rate per 10,000 of the population in 1901 from diphtheria and croup, was 4.1 per cent.

Compare this with our record in Vermont, where practically only the cases of moderate severity are seen. The number of cases reported to the Secretary of the State Board of Health in 1901 was 229. The number of deaths 32, making a death-rate of 14 per cent.

Why does Massachusetts lead us? Because they use anti-toxin early, freely and in large doses. No initial doses of one or two thousand units, but 4, 6, or 8 thousand at four and six hour intervals.

That Porto Rico has a population of about 960,000 and for 10 years prior to American occupation, there were 621 deaths every year from small-pox alone. As soon as the American troops took possession, the entire territory was divided into districts and the whole population was carefully vaccinated. This work was completed in July, 1899, and since that time to July 1, 1902, only three deaths had occurred from small-pox. A saving of 6,000 lives in 10 years' time. There is probably no more positive proof of the value of compulsory vaccination that this in the whole history of the great discovery of the immortal Jenner.

That the official report of small-pox in the United States from December 28, 1900, to April 18, 1901, only 4 months, was 16,734 cases with 225 deaths, and from December 28, 1901, to April 18th, 1902, amounted to 29,304 cases with 850 deaths.

Which signifies that if small-pox is ever to be stamped out in this country, it will have to be fought unitedly and not single-handed.

Immunity from the disease for many years has made, not only the United States, but other countries, careless, and this carelessness is now being paid for by a wide prevalence of the disease. A general vaccination alone will stop it.

Gentlemen, these are a few examples of the lessons taught by vital statistics.

The principal responsibility in their accuracy rests with the physician and while some seem to recognize this, many are very careless.

Examine the annual tables closely and notice some of the causes of death. What are we to conclude by the term heart-failure? What information do such terms as fits, convulsions,

old age, debility or exhaustion convey? They are of no statistical value, and our records cannot be more reliable and trustworthy than the materials furnished by the physician.

The following criticisms can be substantiated. Physicians are not sufficiently explicit. They do not write plainly. They do not state concisely the conditions. And many of the returns are so written that the town clerks cannot decipher them, and while they make an attempt to copy, some of the results are especially ridiculous and of no value.

I will now call your attention to the following points: Sex should be positively stated and not be left to be inferred by the name.

The conjugal condition should be stated.

The age, especially of children, should be exact.

Occupation of all should be given if over 10 years of age.

The place of birth, if in the United States, should include the State or Territory as well as country and town.

If foreign, the name of the country should be given.

The birth-place of each parent should be particularly stated.

The place of death should be designated.

These requirements are all essential to the correct consideration of vital statistics of the whole country.

The Vermont State Medical Society has already adopted this uniform system of registration. It remains for each of us to do our part and do it right.

NEWS, NOTES AND ANNOUNCEMENTS

Burlington and Chittenden County Clinical Society.—The regular meeting was held at 162 College Street, Thursday, June 22, 1905, at 8.30 P. M. The following program was enjoyed:

"The Climatic Treatment of Pulmonary Tuberculosis."

Dr. A. F. A. King, Washington.

A general discussion was elicited by Dr. King's able paper.

To Purify the Sickroom.—The following antiseptic combination is recommended as a vapor in the sickroom:

R Eucalyptol, drachm iiss.
Ol. thymi,
Ol. limonis,
Ol. lavendulæ flor., aa drachm j.
Alcoholis, ounce iv.

M. Sig. One teaspoonful to be floated on a pint of boiling water and allowed to evaporate.—*Journ. A. M. A.*

Alumni Association U. V. M. Medical Department.—The annual meeting of the Alumni Association of the Medical Dept., U. V. M., will be held in the New Medical Building on Tuesday, June 27, 1905, at 5.30 P. M. (immediately following the dedication exercises.) A supper will be served. All Alumni of the Medical Dept. are urged to attend. The yearly dues for 1905-6 (one dollar) will be payable at this time and will include the price of the supper.

Protection from Roentgen-Ray Injuries.—C. L. Leonard, Philadelphia (*Journal A. M. A.*, May 6), calls attention to the serious risk that *x*-ray operators undergo, especially if they follow the practice advised of testing the qualities of the rays on their hands with the fluorescent screen. The only practical method is to limit their radiated field by covering the Crookes tube. For this purpose he uses a pasteboard box a little wider than the

diameter of the tube and covered with *x*-ray lead foil a little heavier than the ordinary tea lead. This extends two inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. He thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, he advises twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcin soap, followed by inunction of lanolin containing half an ounce of boric acid and a dram of resorcin to the ounce. For the acute erythema of *x*-ray treatment, he employs a stearate of zinc powder with 10 per cent. ichthyol, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm.

Laryngitis: Calcium iodized is useful at first to subdue irritation and restore normal secretions; and to stimulate sluggish chronics.

Laryngitis: The inhalation of steam is a valuable soother of irritation, but it is easy to take more cold if exposed after it.

Brief Clinical Reports on Impoverished Blood.—Probably the most frequent and important conditions which the average physician is called upon to treat, are of the impoverished blood supply. Blood impoverishment is a condition rather than a disease and may be met with in all walks of life and at any age. It is symptomatic in many diseases, and cases are observed where it seems to be the chief clinical symptom; where no well defined organic disease can be observed but where many indefinite complaints due to blood impoverishment are plainly in evidence. Whatever concomitant conditions exist with anemia and regardless of whatever special treatment may be demanded by plainly existing established organic trouble, it is, nevertheless, a fact, that the most complete and rapid cures are by restoring to the blood its normal elements. Consequently, the physician is justified in treating all cases of anemia with regard to the anemia itself, but, at the same time, not overlooking the care of other pathological conditions which may exist.

A large hospital experience has given me ample opportunity to study these blood conditions and compare the action of the many therapeutic agents employed in the treatment of blood impoverishment. My efforts have been constantly directed toward finding the remedy which will give the most complete and rapid results in restoring the red blood corpuscles, thereby affording the surest and quickest relief from the weakness and general debility which always accompanies blood impoverishment.

In the beginning of my experiments I noted that those therapeutic elements containing a food product and a stimulating vehicle have shown the most satisfactory and prompt results while those purely of a drug basis seemed to have a limited usefulness. The conclusion reached by my experiments extending over several years, leads me to unhesitatingly endorse Bovinine as being the best tonic, stimulant and food.—Dr. John Griggs, Farmington, Conn.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., June 25, 1905.

EDITORIAL.

EXPEDITIOUS SURGERY.

R. T. Morris, New York City (*Journal A. M. A.,* June 10), remarks that, with modern methods and anesthetics, perhaps too little importance is attributed to expedition in surgical operations nowadays, and suggests that this may be to the disadvantage of the patient. The better the natural resistance, the better is infection combated, and a patient usually retains a great fund of natural resistance during the first fifteen minutes of an operation, no matter what is being done; but he is usually depressed after an hour of operative procedure, even simple in its nature. It seems to him well, therefore, to attempt to approach as nearly as possible to the fifteen-minute standard. It is not desirable to operate against time, but it is worth while to make every move count and not unduly to prolong the operation. He had, after a little discussion on the subject, the next dozen of his operations timed, including several rather serious ones, and reports them in brief detail, giving time and results, as illustrating his point. The time occupied by the operation ranged from seven minutes in an interval appendicitis case to thirty-one minutes in a case of preliminary ligation of the carotid and removal of the superior maxillary and other bones through the classical incision. The operative results were good. Except in two of the cases, the instruments used were usually a pair of scissors, a needle, a single-hook retractor, and two pairs of artery forceps. With the use of scissors there seemed to be less oozing of blood from the smaller vessels, and fewer instruments were required. The charge that primary union may not follow the use of scissors is answered by these cases without reference to further statistics.

We feel that while hasty operating is to be deprecated, the balance of success or failure after many an operation is determined largely by the time employed in its performance. Every medical man has witnessed abdominal operations drawn out over periods of two or three hours, and that patients ever rally from them, is certainly remarkable. Shock is a factor in all operations, and the time required to do any operation, determines to a great extent the degree of post-operative shock.

We earnestly believe, therefore, that a patient should stay on the operating table just as short a time as is possible to accomplish the desired result. In other words, the shortest possible time to get the best possible result,—recognizing always that while haste may be harmful, undue slowness may be worse.

NEW BUILDING FOR U. V. M. MEDICAL DEPARTMENT.

The handsome new building of the University of Vermont Medical Department is to be dedicated by appropriate ceremonies June 27, 1905. After many trials and tribulations, a suitable home for the Medical Department is about to be realized, and to say that the loyal

sons of the medical college are happy, is a mild way of expressing the truth.

Too great commendation cannot be given the Medical Faculty, who by hard work and denial have made possible the happy result so long desired. Now at last the Medical Department can fill its proper place in the University scheme, and the future promises much.

Truly it is a time for felicitation, and as we who have watched the Medical Department through the vicissitudes of some time back, witness at last the culmination of hopes long deferred, let us not fail to give honor and credit to *all* who have aided in the upbuilding of so splendid an institution.

MEDICAL ABSTRACTS.

Tolerance to Nitroglycerin.—According to D. D. Stewart, Philadelphia (*Journal A. M. A.*, May 27), an excessive tolerance to nitroglycerin can be readily acquired if care is not taken to avoid a too rapid increase of the dose, hence the drug, though intelligently employed, is often of little service. He refers to earlier articles of his on the subject, and especially to a case before mentioned in *The Journal A. M. A.*, in which 50 minims of a 10 per cent. solution were taken daily without any very marked effects. The best rule for giving the drug for its effects on blood pressure, is, in his opinion, to administer it four times a day in dose just sufficient to produce the slightest feeling of fullness in the head or to slightly quicken the pulse. If more than this is given, an undesirable tolerance is likely to be established. When a rather rapid increase seems needed to keep up a constant effect, it is best to discontinue the drug for two or more days, at intervals, and to resume its use with a smaller initial dose. By so soing the use of very large doses and strong solutions, which are not exactly safe to handle, will be avoided. Nitroglycerin, he thinks, has not met expectations as a remedy in conditions of persistent high tension, and he now uses it in such cases less frequently than formerly, endeavoring at first, at least, to relieve by limiting the nitrogenous intake and maintaining free action of the skin and bowels. Aconite is often substituted for nitroglycerin in these cases with advantage.

The Treatment of Pyelitis.—After discussing the causation of pyelitis and quoting interesting cases, the author lays great stress upon its magnitude, and sums up his paper in these words:

1. It is important to take cognizance of a pyelitis of any grade whatever, as it may at any time become a menace to functional value of the kidney, or even to life itself.

2. The severer grades of the affection are often the sequelæ of a milder pyelitis of long standing.

3. The first step in the investigation is to determine the extent of the affection by eliminating the amount of pus in the urine and the relative number of organisms.

4. It is important to determine the cause of the infection, which is often of a mechanical nature, and therefore easily relieved.

5. By removing the cause, the disease may either be cured, or so far benefitted that a subsequent complete relief by means of local treatments is easily brought about.

6. The milder forms are best treated by rest, abundant water and urotropin.

7. If there is not a speedy improvement, the next simplest plan of treatment is the catheterization of the kidney every two or four days for the purpose of evacuation, distension of the pelvis, irrigation and instillation. Boric acid

and nitrate of silver are the best drugs in this connection.

8. Improvements should be measured by the disappearance of pus from the urine and the diminution in the organisms, taking say three platinum loops as a measure in conveying the infected urine to the agar.

9. A patient improved, but not cured (complete absence of bacteria), should be watched in the intervals of treatment and guarded with especial care in case of any intercurrent disease. Should such a disease supervene, urotropin is a good prophylactic.

10. The severer forms of the disease may be treated by irrigation, which often brings great temporary relief. As a rule, however, the kidney must be opened and drained; if it has been extensively diseased, it should be removed.—*Kelly, Med. Rec.*

Incontinence of Urine.—E. C. Dudley, Chicago (*Journal A. M. A.*, June 3), describes a new operation for the relief of the urethrocele with imperfect urinary control, sometimes met with in multiparæ. It is based on the same principle as the operation of Albarran for the same purpose; the urethra, however, is not dissected free and the danger of its sloughing is avoided. The first step consists in denuding a horseshoe-shaped surface between the meatus and the clitoris, and to either side throughout its length. In the second step of the operation the meatus is drawn up to a point near the clitoris and secured there by means of two sutures. The lateral portions of the denuded surface are then closed. The first two sutures stretch the urethra upward toward the clitoris; and the lateral ones tend to hold it in its new position. The idea is to straighten the urethra by longitudinal tension and to collapse it and to hold together the dilated walls and to overcome the sacculation at the neck of the bladder by lateral traction. In many cases, it may be necessary to operate at the same time for the associated cystocele, and in nearly all cases to perform perineorrhaphy for the relaxed posterior vaginal outlet. When there is very much relaxation of the tissues about the clitoris, and there is danger of it being pulled down, he would take a reef in the tissues above that organ, enough to keep it sufficiently high to hold the urethra taut. He has performed this operation five times since Jan. 1, 1905. In the first four, the relief was immediate, and, so far as known, continuous. The last case is still too recent to be correctly estimated.

Hot Water for Ivy Poisoning.—In a communication from Charles Northon Barney, Assistant Surgeon, United States Army, stationed at Key West, Fla., to the *Jour. A. M. A.*, the use of hot water to allay the itch caused by ivy poisoning is recommended. Dr. Barney has tried several treatments,—viz.: a combination of carbolic acid, zinc oxide, and lime water; of lead acetate and alcohol; lead and opium—but found none of these so effective as strong heat. When possible, he plunges the affected part directly into hot water; in other cases he sops the hot water on with a sponge.—*Med. Times.*

ALKALOMETRY: ACTIVE-PRINCIPLE THERAPEUTICS.

WHAT IT IS.

1. The administration of small doses of the most active and potent known remedies (chiefly alkaloids and other active principles representing the majority of all the accepted vegetable remedies) at short intervals until either *remedial effect* or signs of *drug sufficiency*, the full physiological effect of the drug are apparent.

2. The exhibition of such doses in the form of tiny soluble granules or tablets—each containing a definite amount (usually gr. 1-134, 1-67, 1-6 or 1-3) of the drug.

3. The additional use of such solvents, eliminants, vital incitants and local and systemic antiseptics as have proven by extensive clinical test of considerable remedial value.

4. The freedom to use any and all remedial agents—always in the purest and most concentrated form available—that will produce definite results in a recognized condition.

5. The absolute avoidance of promiscuous formulas, problematical remedies, crude drugs (vegetable) and nauseous, changeable, alcoholic tinctures and fluid extracts when the active (remedial) principle of the drug can be given in its purity in effective well-established dose.

WHAT IT DOES.

1. It cures, where it is possible to cure, *cito, tuto et jucunde.* Its chemistry is done outside the sick body.

2. It gives the maximum obtainable results in the shortest possible time, with absolute safety and with no possibility of overdose, or cumulative effect.

3. It enables the practician to give the most potent medicines to the youngest infant or the most squeamish invalid without the aid of scales, measures or menstrua.

4. It enables the doctor to push a remedy *to effect* without wondering whether he has poisoned that particular patient in his effort to give enough.

5. It makes it possible for the practician to have always with him an emergency case filled with standard medicaments of unchangeable strength and consistency for acute cases and urgencies, thus enabling him to treat conditions when they most need treatment and when he can do the most good.

6. It enables the doctor to practice the most certain, safe and efficient method at a nominal cost.

7. It eliminates "chance" and, with perfectness of diagnosis and application, makes medicine "An Exact Science"—or as near that as it is possible to attain.

Doctor, you may have seen this before, but it is worth another look.—*Alkaloidal Clinic.*

PATHOLOGY OF SCIATICA.—J. Ramsay Hunt (New York City) records a typical case of sciatica with careful histologic study of the affected nerve. To the naked eye the nerve trunk below the sciatic notch and in the popliteal space was swollen and distinctly enlarged, the swelling due to an accumulation in the alveolar tissues of the translucent substance having the consistency of gelatine. A careful histologic examination of the nerve by modern laboratory methods failed to reveal any structural changes of an inflammatory or degenerative nature. Hunt concludes that the so-called sciatica or more properly speaking sciatic perineuritis is not an inflammatory condition in the usual acceptation of the term. That the underlying change consists of a structureless transudate into the lymph spaces of the nerve sheath of obscure nature and origin, but probably dependent upon or closely allied to the gouty and rheumatic diathesis.—*American Medicine,* April 15, 1905.

THE ACTION OF STROPHANTHUS.—Dr. G. Gunther, after an examination into the action of this drug upon horses, sheep, dogs and other smaller animals, has arrived at the following conclusions: 1. Strophanthus is purely a heart muscle poison in mammals, and produces death by causing stoppage of the heart in diastole. 2. In poisonous doses it causes characteristic changes in the pulse and blood

pressure, different from those caused by digitalis through the absence of stimulation of the vagus. 3. Strophanthus is a vasoconstrictor, but is less active in this regard than digitalis; this action is, however, not marked in overdosage. 4. Strophanthus possesses a specific action upon the vomiting centre. 5. Of antidotes the chief place is occupied by artificial respiration. Excitants are without influence, as they are in poisoning by morphine and chloral hydrate.—*Therapeutische Monatshefte*, 1904, No. 6, p. 285.

BOOK REVIEWS.

Gray's Anatomy.—Messrs. Lea Brothers & Co. have pleasure in announcing a new edition of Gray's Anatomy, to be published about midsummer, and embodying nearly two years of labor on the part of the editor, J. Chalmers DaCosta, M. D., of Philadelphia, and a corps of special assistants.

Commensurately with the importance of the largest selling medical work ever published, this new edition will present a revision so thorough and searching that the entire book has been reset in new type. In addition to the changes necessary to bring it abreast of the most modern knowledge of its subject, several important alterations have been made with the view of adapting it still more closely to present-day teaching methods, and in fact to anticipate the trend of anatomical work and study.

Thus, while the older nomenclature is used, the new names (B. N. A.) follow in brackets; the section on Embryology and Histology at the back of the present "Gray" has been distributed throughout the new edition in the shape of embryological, histological and biological references and paragraphs bearing directly on the part under consideration, thus contributing to a better and easier understanding.

The illustrations have come in for their full share of the general revision, so that at this writing more than 400 new and elaborate engravings in black and colors have been prepared. "Gray" has always been noted for its richness of illustration, but the new edition far exceeds anything that has hitherto been attempted.

No medical text-book has ever approached "Gray" in sturdy longevity and accumulating strength. Notwithstanding the many would-be competitors which during nearly fifty years have periodically appeared and endeavored to share its ever-increasing popularity, this wonderful creation of a genius who lived barely long enough to realize that his work was done—how well he never knew—goes on and on, each succeeding year bringing new friends and strengthening the fealty of the old.

The editor and publishers have spared neither labor nor expense to keep "Gray" at the forefront of anatomical knowledge, and there seems to be no reason to doubt that its next fifty years will pass as smoothly and as successfully as have those past.

International Clinics. Vol. IV. Fourteenth Series, 1905. Phil. and London, J. B. Lippincott Co., 1905. viii, 314 pp., 11., 24 pl. 8vo. Price: Cloth, $2.00.

The first paper in this volume entitled "The Exesssive Use of Drugs in the Treatment of Chronic Diseases, with Reference to Medicinal Intoxication," might be read with advantage by all classes of practitioners. The clinical material used to illustrate what is said is much to the purpose. All the papers have this characteristic; they very clearly state facts and principles and recite histories of cases treated in the hospital wards as illustrations. Distinguished clinicians have contributed papers.

on treatment, medicine, surgery, gynecology, neurology and pathology, and have filled a book which we have read with much interest and benefit.

INTERNATIONAL CLINICS. Vol. I. Fifteenth Series, 1905. Phil. and London, J. B. Lippincott Co., 1905. x, 312 pp., 13 pl. 8vo. Price: Cloth, $2.00.

The treatment of cardiac asthma, cirrhosis of the liver and cholelithiasis is expounded in three clinical lectures. They are practical. Five papers are devoted to the subject of medicine, five to surgery and several to neurology and obstetrics. The volume ends in an interesting summary of the progress of medicine during 1904 by A. A. Stevens, D. L. Edsall, W. B. Stanton and E. C. Bloodgood. As an up-to-date and complete exposition of modern medicine these volumes of a standard publication are unrivalled. Their extensive sale tells how popular they are.

PRACTICAL DIETETICS WITH REFERENCE TO DIET IN DISEASE.—By Alida Frances Pattee. *Second Edition.* N. Y., The Author, 1904. xvi, 312 pp. 8vo. Price: Cloth, $1.00.

It is an indisputable fact that too little is known in regard to dietetics and we welcome so valuable a work as this one before us. It is brief, yet nothing important is neglected or omitted. For the nurse it ought to be of the greatest value and it should be adopted generally in training schools as a text book. It is neatly bound and printed and altogether worth much more than its cost.

STRAY THOUGHTS.

THE VALUE OF SELF-CONFIDENCE.—Thousands of men go down, after several consecutive reverses, because they lose heart. They decide that luck or fate is against them, and that it is of no use to try further.

You will notice that the man who does not lose his courage or his determination, when he loses his property, gets on his feet again infinitely quicker than the man who loses heart; in fact, there is not much chance for the man whose courage fails. When he loses his grip, as a rule, he loses his climbing qualities, and simply drifts. A dead fish will float with the stream, but it takes a very lively one to swim against a strong current.

If we could analyze the cause of all the failures in the world, we should find that loss of confidence had more to do with these failures than the loss of property.

Outside of character itself, there is no loss so great as that of self-confidence; for, when this is gone, there is nothing to build upon. It is impossible for a man to stand erect without a backbone, especially when he has much weight to carry.

Nothing can keep a man down when he has grit and determination. Imprison him, and he will produce a "Pilgrim's Progress" on the twisted paper used as a cork in a milk jug. Take away his eyesight, and he will write "Paradise Lost," as did Milton, or the "California and Oregon Trial," as did Parkman; or he will become postmaster-general, as did Fawcett, or will do some of the thousand things which it is in the undismayed man to do. It is as impossible to imprison energies as it would be to bottle up steam. Self-confidence makes men gods, whose wills must be obeyed.—*Success.*

CARBUNCLES.—Creel has relied on ecthol given internally, in doses of a teaspoonful, in cases of carbuncles, flaxseed poultices applied locally, emptying of pus, scraping out of dead tissue and cleansing with peroxide of hydrogen, after this a topic application of ecthol on

absorbent cotton every four to eight hours. The average duration of this treatment in his cases was ten days.—*Journal of The American Medical Association.*

NEWER REMEDIES.

ANTIKAMNIA. (Therapeutic Indications)—Antikamnia is an American product, and conspicuous on this account and because of the immense popularity which it has achieved, it is to-day in greater use than any other of the synthetically produced antipyretics. The literature is voluminous, and clinical reports from medical men in all parts of this country, with society proceedings and editorial references, attest its value in actual practice in an endless variety of diseases and symptomatic affections, such as the neuralgias, rheumatism, typhoid and other fevers, headaches, influenza and particularly in the pains due to irregularities of menstruation. Antikamnia has received more adverse criticism of a certain spiteful kind, particularly directed against its origin —and because of its success—than any other remedy known; critics have seemed personally aggrieved because of its American source, and that it did not emanate from the usual "color works," but their diatribes have fallen flat as do most persecutions and unreasonable and petty prejudices. The fact stands incontrovertible that antikamnia has proved an excellent and reliable remedy, and when a physician is satisfied with the effects achieved he usually holds fast to the product. That is the secret and mainspring of the antikamnia success. It is antipyretic, analgesic, and anodyne and the dose is from 5 to 10 grains, in powder, tablets or in konseals taken with a swallow of water or wine. When prescribing Antikamnia, particularly in combination with other drugs, it is desirable to specify "in konseals," which are rice flour capsules, affording an unequalled vehicle for administering drugs of all kinds.

WHAT SHALL IT BE?—This question is present in the mind of the busy physician every summer when he confronts the problem of appropriate tonic medication for the weak, poorly-nourished and debilitated. He knows that during no other season of the year is there so marked a tendency to disturbances of the gastro-intestinal tract and that many intractable forms of diarrhœa may result from unsuitable foods and medicines; the first requisite therefore is to select a tonic that has the negative virtue that it will not irritate the sensitive stomach and intestines. Cod liver oil, iron and the usually employed nutritives and tonics have a well-defined local irritant action on the gastro-intestinal tract, and are unsuitable when these organs are in the super-sensitive condition so commonly present during the heated term; these remedies, experience proves, lack even the negative virtue of non-irritating character.

The next question to be decided is, what remedy has a selective action on the gastro-intestinal mucous membrane whereby its functions are kept in a normal condition? In other words, how may the natural tendency of hot weather to set up irritation of these organs be combatted, and at the same time how can the patient be properly nourished? A moment's thought as to the physiologic effects of Gray's Gly-Tonic Comp. will answer these questions and explain why this remedy is the best tonic and reconstructive for summer use.

First of all, Gray's Tonic is one of the most prompt and reliable gastric sedatives known to the profession; as instance of this it is only necessary to recall its wide-spread use in the gastric irritability and vomiting of pregnancy and sea-sickness. Once having pacified the

stomach it exerts very positive effects upon the secretory and motor functions of this organ, manifested by creation of appetite and increased power to digest food. It is a great step forward when these patients can take sufficient quantities of proper food and have the power to digest and assimilate it. Gray's Tonic accomplishes this and as a consequence has a pronounced influence in improving the nutrition of the patient. It thus starts aright the complicated physiological processes which result in increased blood constituents, more vitality, greater strength, and increased power to resist the inroads of disease.

Let anyone who doubts the truth of these statements try Gray's Tonic in any case of malnutrition, general debility or nervous exhaustion existing independently or as a part of chronic organic diseases, and note how well these patients stand the depressing effects of hot weather, how free they are from gastro-intestinal complications, and how beneficial the remedy is upon the general nutrition.

Gray's Glycerine Tonic Comp. owes its distinctive value to the proportion of the contained ingredients and their manner of combination. All imitations lack these characteristics of the original and are consequently of inferior value.

Prescribe in original 16 oz. bottle. At all druggists. The Purdue Frederick Co., Sole Proprietors, No. 298 Broadway, New York.

Intestinal Antiseptic.—That Acetozone is a valuable germicide is demonstrated by its effects upon typhoid bacilli and cholera vibrios in river water. In their experimental work Freer and Novy (Contributions to Medical Research, p. 107) made the following tests:

a. A cylindrical glass-wool filter was prepared, and on it was placed a layer of Acetozone crystals, about 3 cm. thick. A bouillon suspension of typhoid bacilli *passed once through this filter yielded a sterile filtrate,* while control tubes gaves the usual abundant growth.

b. A liter of tap-water was sterilized by heat and, when cool, a suspension of cholera or typhoid germs was added, the experiment being repeated several times. Ten to twenty milligrams (1/6 to 1/3 grain) of Acetozone was added and, after thorough shaking, portions of the liquid were taken out and planted in bouillon and agar which was plated. In each instance the cholera germs were destroyed completely in five minutes, and the typhoid germs in fifteen minutes by the extremely small quantity of Acetozone used. It should be observed that the addition of 10 mg. of Acetozone to 1 liter of water represents a solution of 1 part to 100,000. Controls gave abundant growths, the plates yielding 600,000 to 800,000 colonies.

From the above experiments the authors draw the conclusion that pathogenic organisms are destroyed by extremely small amounts of Acetozone. They also suggest the practicability of this agent for the purification of contaminated waters, especially in connection with military operations. From other experiments it was found that even sewage can be rendered almost sterile by the addition of relatively small amounts of Acetozone.

Therapeutically Acetozone is being very widely used in the treatment of typhoid fever, intestinal diseases, notably summer diarrheas in children, in gonorrhea, suppurating wounds and infectious processes generally. It is prescribed in the saturated aqueous solution which is prepared by adding 15 grains of Acetozone to a quart of water, shaking thoroughly and setting aside for a couple of hours to hydrolize. Messrs. Parke, Davis & Co., who prepare Acetozone, are sending out printed matter to physicians containing reports of very

gratifying results from the use of this interesting compound. Any physican who has not received a brochure can obtain one on request.

When an internal mucous astringent is indicated, in such cases as Cholera Infantum, etc., Kennedy's dark pinus canadensis should be given in an alkaline medium.

The Journal of the American Medical Association is perfectly correct when it states editorially in its issue of April 8, 1905, that its own observation of medical literature indicates that echinacea is being used far more than formerly, as Ecthol (Formula:—Each fluid drachm contains 28 grains echinacea augustifolia and 3 grains thuja occidentalis) has grown into almost universal use among physicians of all countries since it was first introduced to the profession some 5 years ago. Discussing echinacea in a recent issue of the Louisville Monthly Journal of Medicine and Surgery, Dr. C. S. Chamberlin, of Cincinnati, writes as follows: "In my own experience, the results attending the use of echinacea have convinced me that there is no remedy of so great value in the treatment of cases of septic infection, and I have repeatedly used it in the cases of septicemia following wounds of the extremities, which I am confident, by any other means of treatment, would have resulted in the loss of the limb and possibly of the life of the patient." He further recommends it to eliminate toxins and to alter conditions which favor suppuration and inflammation, as in the case of abscesses, ulcers, gangrene, bites of venomous insects and reptiles, tonsillitis, the exanthemata, eczema and psoriasis.

The Wasting Diseases.—In the wasting diseases, as well as in rickets, scrofula and marasmus, it is of the greatest importance that a remedy be selected which will quickly check the pathological condition, and restore the organism to the normal without producing digestive or other functional disturbances. Cod liver oil has always stood first in the category of remedies calculated to bring about this desirable result, but unfortunately its peculiar odor and taste are features which are quite often objectionable to patients. Hagee's cord. ol. Morrhuæ Comp. is an elegant preparation, containing all the essential therapeutic properties of cod liver oil and combined with tissue building chemicals (hypophosphites of lime and soda) and aromatics, which render it agreeable to the palate.—*American Journal of Dermatology.*

Glyco-Thymoline in the Lying-in Hospital.—S. O. Moses, L. R. C. P. E., L. F. P. S. G., Culcutta, India.

In treating inflamed mucous membrane, both acute and chronic, I have found Glyco-Thymoline eminently satisfactory. Some of the results have been so prompt and gratifying that I am simply charmed.

I used it very freely in cases of putrid nasal discharges in 20 percent solution and within two days had absolute cures.

I also used it in four cases of sepsis and in two days, using as a uterine douche morning and evening, 20 percent solution, I was pleased to find my patients free of fever and no odor in the discharge. This is a triumph indeed and in Glyco-Thymoline we have a reliable remedy in the worst set of cases that a medical man has to encounter. I can hardly say that Glyco-Thymoline is one of the remedies I have in every lying-in room.

The Vermont Medical Monthly

Vol. XI. July 25, 1905. No. 7.

ORIGINAL ARTICLES.

ACUTE ARTICULAR RHEUMATISM.*

By L. W. Burbank, M. D., Cabot, Vt.

Acute Articular Rheumatism is an acute general febrile disease dependent upon a specific microorganism or several closely allied varieties of microorganisms and characterized by single or multiple arthritis together with a tendency to be associated with endocarditis and pericarditis.

It is distributed over the larger part of the habitable globe, yet its ravages are most dreaded in temperate climates, more especially those countries where there are frequent changes in the amount of moisture in the air. Exploring parties in the frozen Arctic regions pass the long winter without a single case but begin to suffer as soon as spring arrives. Hot dry countries of the tropics are nearly free from the trouble.

One of the most important predisposing causes is heredity. To those who practice in the country towns of New England, where many generations of a family live on the same farm or in the same town, it would seem that at least one-half of all patients suffering from acute rheumatism, have rheumatic ancestors in the first or second generation. Where the statistics compiled from different authors are averaged, they show that about thirty-five per cent. is not far from correct.

No age is entirely exempt, yet about eighty per cent. of all first attacks occur when the patient is between twenty and forty years of age. It is a rare disease during the first five years of a child's life.

When we consider the element—sex—as a causative agent it will be noted that during the years from twelve to fifteen girls are much more prone to the disease. After the age of puberty is past sex—*per se*—plays no important role, yet when occupation is adder to sex, the male is more liable because his means of earning a living expose him to more sudden changes in temperature. A sudden arrest of copious perspiration is the most usual and immediate factor in bringing on the trouble. Frequently a patient relates how he had been working hard and sweating freely, then ceased work but failed to replace the clothing taken off, before long he had creeping chills and the usual symptoms of rheumatism.

Most authors place season as a common cause. This is so only so far as those months, more liable to frequent and sudden variations in weather, are marked by an increase in rheumatic attacks, while such seasons as have continuous hot or cold weather show a decrease in the same. There are several other predisposing causes, chief of which are tonsillitis, septic wounds, chorea and fatigue.

EXCITING CAUSE.

There is very little, if any doubt but that the exciting cause or infective agent is a microorganism. Most investigators who have made a careful experimental and microscopical study of the fluids in rheumatic joints and the membranes and tissues in close relation to such joints, report that there is a special diplococcus.

*Read at the 91st annual meeting of the Vt. State Med. Society.

Other investigators claim that the ordinary staphylococci and streptococci are the direct cause; basing their claims on the fact that the germs frequently arrange themselves in chains and rods.

This is a radical departure from the opinions held when the subject was last before this society, but when we compare the clinical features of septic infection we must be impressed by their striking similarity. When we consider the mode of onset, the tendency to involve serous membranes, and the heart, the sweats, chills, anaemia, leucocytosis and frequent relapses, it can be truly said that Acute Articular Rheumatism is a typical specific infection.

PATHOLOGY.

The blood contains much more than the normal amount of fibrin. The red corpuscles are reduced in number. The haemoglobin is reduced about one-half.

The microorganisms are brought by the blood current and deposited immediately under the endothelium, where they cause the capillaries to distend and force an exudate into the joint. The exudate is mostly serous but contains fibrin and leucocytes. After the subsidence of acute symptoms large numbers of leucocytes are found in the tissues just back of the endothelial cells.

PROGNOSIS.

The disease is much dreaded on account of the chronic cardiac lesions which often remain; yet only about one-half of one per cent. of all cases have a fatal termination. If to the deaths due to the disease itself, those due to cardiac and cerebral complications be added the mortality is only raised to four or five per cent.

SYMPTOMS.

The incubation period is indefinite in time and manifestations. There are generally a few days of malaise, sore throat or fleeting pains in different joints. The most usual course is for the attack to come without previous warning. The principle features are present from the first. They are chill, fever, and synovitis. The most characteristic feature is its tendency to shift its local markings from one joint to another. At times each joint remains bad for a week or more, at others a single day is long enough for the pain to be in any particular locality. The usual course is for the trouble to move from one joint to its mate on the opposite limb, but it may go from the lower limb to the upper and *vice versa*.

There are wide variations in intensity and duration of symptoms. There are typical cases which last but two or three days, and there are others which continue with declines and exacerbations for several weeks.

SYMPTOMS IN DETAIL.

The urine is of high specific gravity, dark in color, highly acid reaction and diminished amount. After standing for a short time in a cool place it deposits a copious prepicipitate of reddish sediment. The sediment is largely made up of mixed urates.

The tongue is thickly coated, thirst and constipation are usually present. While the appetite is impaired it is so to a lesser degree than in most fevers of equal severity.

The skin is generally bathed in an unusual amount of perspiration. The sweat has a peculiar odor. Some writers contend that the sweat is acid, some alkaline, and others neutral. The real condition is probably that the perspiration is alkaline the instant that it emerges from the ducts but that it mixes with seba-

ceous matter and changes to acid reaction as soon as exposed to the air. The surface of the body remains cool and pale. It is frequently studded with sudamina. Other skin lesions such as erythema, urticaria or purpura may be present. Occasionally rheumatic nodules may appear. They are small, movable, and painless. These nodules are just beneath the skin and are attached to tendons or fasciae close to the joints of fingers, wrists, elbows, ankles, knees, and occasionally deeper joints.

TEMPERATURE.

While most acute fevers have a typical fever curve, we can examine dozens of rheumatic fever charts before any two are found to even approach similarity. In ordinary cases the temperature rises from 100 to 103 and continues like that until it ends by irregular lysis at the subsidence of the other symptoms. The oscillations of temperature from hour to hour are as uncertain as those from day to day. The strangest feature of this disease is that while its fever curve is moderate, it furnishes some of the most noted cases of hyperpyrexia on record. Apparently reliable authorities report instances of 108 to 112 degrees and one at least claims a case where 115 was reached.

VASCULAR SYSTEM.

Those symptoms arising from the circulatory system are, to quite an extent, complications. The pulse is increased in frequency to from 90 to 120, but usually remains about 100. In character it is full and soft till the cardiac complications begin.

There is decided leucocytosis and anaemia. The latter develops more repidly than in any other febrile disease.

The most common of the heart complications is endocarditis. This occurs in about 60 per cent. of the first attacks and increases to about 75 per cent. in third attack.

It is usually a simple verrucose variety affecting the mitral valves and ending in recovery so far as life is concerned; but too frequently it starts changes which cause sclerosis and retraction of the segments. Thus originate many of our cases of chronic valvular disease. Pericarditis and endocarditis are less frequently met with.

NERVOUS SYSTEM.

The nervous system is not so severely affected in most cases as in many disorders of equal severity. There is occasional delirium and frequently insomnia. Often the loss of sleep is due to pain rather than to any trouble with the central nervous system.

Pain in the locality of the affected joints is excrutiating, and greatly increased with the slightest motion. This feature of the ailment renders the care of the patients very difficult.

LOCAL SYMPTOMS.

The local symptoms are more prominent than those of the general system. The joints are attacked with varied frequency. The foot is involved in approximately 30 per cent. of all cases, the knee in 18, hand 10, shoulder 6, hip 4, and elbow 2. The joints are swollen, and the skin about them is hot, tense, and oedematous. As the swelling subsides the overlying cuticle cracks in small scales and falls off. Changes in tendons and their sheaths cause the crackling sound heard on moving the limb.

DIAGNOSIS.

Gout is to be differentiated when the early local symptoms are seated in the smaller joints, especially those of the toes. The characteristic sweating of rheumatism is lacking in gout. The blood of the victim of gout contains uric acid, while that of the rheumatic does not. The general symptoms of gout are

the middle of the two. A patient's social and financial status has to be reckoned with, Rheumatism is the curse of the laborer, and the rich man who eats and drinks out of all proportion to the amount of exercise taken has to include gout among his other luxuries.

Pyaemia is differentiated by the absence of continuous sweating, greater severity of systemic symptoms, the usual presence of jaundice and frequently repeated rigors. These rigors are followed by marked rise in temperature. The history of the case assists in separating these diseases, because in pyaemia we usually know of some source of infection.

Gonorrhoeal arthritis has local symptoms out of all proportion to its general effects, and is usually confined to one joint. Add to these points the knowledge of recent gonorrhoea and the diagnosis is pretty sure.

Acute synovitis is recognized by history of injury and the fact that its chief features are confined to synovial cavities while rheumatism has a tendency to show itself in adjacent tendons and other tissues.

TREATMENT.

Local applications are of great value when the pain persists for days in one joint. One of the chief indications for local treatment is to convince the patient and his family that something is being done, and moreover they are of decided benefit in most cases. There are hundreds of formulae for rheumatic plasters, ointments, and lotions. These range from a simple protection from light and air to the most complicated compounds.

The one which has been of the most benefit in my work is as follows:

Ichthyol methyl salicylate, oil turpentine ää drams four, lanoline q. s., ad. oz. four.

This ointment to be spread over the affected joints and covered with a thin layer of absorbent cotton, and over all a layer of oiled silk. This must be watched because if too closely bound on, or left too long it may blister. It has seemed to me that my results were full as satisfactory where small blisters were developed.

The patient should be sent to bed as soon as the diagnosis is made and there he should be kept till the acute symptoms have subsided. This precaution tends to relieve the heart of unnecessary work and so he is less liable to have cardiac complications. Flannel garments and sheets should be made use of, because more agreeable to the patient than common sheets, and they also aid in the evaporation of sweat.

A well lighted and ventilated room should be selected. It should be large enough so that the bed will not be touched in moving about. The air should be kept as free from moisture as practicable, and the temperature maintained at 65 or 70°. While the room is kept cool at all times, care must be had to protect the patient from draughts, especially when any part of his person is exposed.

The best foods are liquids such as milk, soups, gruels, etc., then come egg albumen, oysters, tripe and other highly nutritious yet easily digested foods.

The patient may drink freely of water, lemonade or carbonated waters. Alcohol is of doubtful value in the acute stage.

It is universally conceded that salicylic acid and its salts are the most efficient remedies at our disposal. These salts are used in dispensary, hospital and private practice the world over. The group of drugs next in value is composed of the salts of the alkalies, sodium, potassium, ammonium and others of the same chemical family.

Among the hundreds of agents mentioned in print, I have found aspirin in fifteen grain doses useful when the routine course was unsatisfactory.

It is my custom to give a brisk cathartic at first, after which only mild laxatives are used.

If my patient is experiencing his first attack, or if I have never given him salicylates, I commence with fifteen grains of ammonium salicylate, this dose to be repeated each two hours until salicylism is produced or the pain and fever have nearly ceased. As soon as pain is relieved the dose is made smaller and the interval longer.

When I know from experience that the medicine will be well borne the dose is doubled while the interval remains the same. Coincident with the administration of salicylates I give about forty grains of the effervescing citrate of potassium each three hours till the urine becomes alkaline.

Excessive pain is controlled by large doses of Dovers powders, or hypodermic injections of morphine.

During convalescence the anaemia is best relieved by small draughts of wine, some of the easily assimilated iron preparations and a judicious dietary and hygienic regime. I believe that the alkalies shorten the disease and lessen heart complications while the salicylates limit pain and fever.

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*THE SERUMS AND ANIMAL EXTRACTS IN OUR THERAPY.

By Geo. F. B. Willard, M. D., Vergennes, Vt.

Not with the idea of presenting new or original thought is the subject of the Sera and Animal extracts proposed for your consideration at this time but with the hope that its discussion may be instructive and not uninteresting.

Over 1,200 examinations of cultures for Diphtheria have been made at our State Laboratory since January 1st of this year, yet if I am credibly informed some physicians in the State hesitate to use the only remedy.

During the last 15 years the study of animal extracts and Sera have received an unaccustomed impetus from various causes, chief among which is the hard, earnest work of the Bacteriologist.

The earliest history of medicine mentions the use of animal products in the treatment of disease, but not till within the period mentioned has anything like a scientific basis been proposed.

Animal therapeutic agencies naturally divide themselves into two groups. One having for its basis the idea of supplying deficiencies caused by the failure of some organ or gland. The other contracting the action of their disease germs and their ptomains.

Although in its infancy, and most of its problems remaining unsolved, this department of therapeutics claims to some of the greatest achievements of modern medicine.

Thyroid feeding in myxedema will practically cure what was once an incurable disease. It has also been used in obesity, middle ear disease, syphilis, disorder of lacatum, and uterine troubles with some success. It is still under observation, and will not at once assume its proper place.

It is one of the extracts that can be administered by the mouth in doses of 2 to 5 grains of the dried gland.

Another extract is from the suprarenal gland which owing to its powerful effect on the vascular system bids fair to be of much use. A friend of mine reported a case of post partum hemorrhage controlled by two 2 gr. tablets of suprarenal, given 15 minutes apart, after ergot had apparently failed. It checks capillary bleeding when applied locally, reduces conjes-

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*Read at the 91st annual meeting of the Vt. State Med. Soc.

tion of the conjunctiva and naso pharyangeal mucuous membrane and is slightly anasthetic.

A preparation of variously named active principles in 1 to 1,000 solution makes a convenient preparation. Other uses will suggest themselves as its properties become better known.

Thymus Gland, Bone Marrow, Spleen, Uterus, Testicles, Ovary, Brain, and Nerves have all furnished extracts with varying degrees of usefulness. Sufficient for the purpose of this paper to say that many of them give promise of usefulness. Certainly they open an interesting subject for investigation and the success already attained gives promise of greater usefulness.

The second division or sera which we will allow to include the Vaxines, Toxines, and Antitoxines contains even greater problems, and greater achievements.

The form and effect of many of the bacteria are known, but the peculiar ptomains of each, the effects when associated in mixed infections and the whole subject of immunity presents a field for research that has hardly been entered.

Jenner has given us vaxine against variola and today as a result no one need have the loathsome disease that once was the claimant to first place as cause in the death rate.

Pasteur made a study of rabies and with the emulsion of the spinal cord of the rabbit his followers will protect any one exposed to hydrophobia. This treatment should be done at a Pasteur institution and should be begun before symptoms develop.

The serum of tetanus has apparently been curative when injected into the cerebral tissue, but propably owing to its being used late has not acquired the reputation of some others.

A serum for cholera infantum and dysentery is in the experimental stage, and gives promise of good results.

The Diphtheretic Antitoxin is no longer questioned. It can be used with entire confidence as it will produce results.

When Dr. Charles Allen was secretary of the State Board of Health, I buried 5 out of a family of 12 from Diphtheria. This was before Antitoxin. Perhaps two months ago I saw a woman apparently moribund from laryngeal diphtheria. She received Antitoxin, was confined in less than a week, the baby had Antitoxin, and both are living today. Give Antitoxin early, often, and in large doses 2,000 to 4,000 units and repeat. It will do no harm and will save your patient if used early and in sufficient quantities.

The serum treatment of anthrax, cholera and even tuberculosis has been reported as favorable but there are conditions yet to be tried before the general practitioner can hope to treat all germ bred diseases by vaxination or with Antitoxic Sera.

Berhing, whose name is associated with the Antitoxin of Diphtheria, gave us the law, "That the blood serum of an animal which has been artificially rendered immune against a certain infectious disease when injected into the body of another animal, has power to protect the latter individual against the same disease and to cure the disease after infection has occurred." The subject of immunity is an interesting one and is one of the chief uses of the sera. It has been tried in typhoid, cholera, and anthrax and is one of the most important uses of Diphtheretic Antitoxin.

With the careful, earnest work that is being done by the physiologist and bacteriologist and the constant cry of our profession for more light we may expect that new revelations are in store for us in the line of organic Therapy.

THE RENAISSANCE OF THERAPEUTICS*

By William F. Waugh, A. M., M. D.

No one ever comes out of a discussion occupying exactly the ground he did when he entered it. There is some truth—necessarily—in the position to which any rational man will give his assent; and this truth must impress itself upon every other rational man who investigates it. The differences in men's views are mostly due to their diverging self-interests, or to the fact that their grasp of the subject, their outlook, is limited; and each takes a survey of a different part, from a different viewpoint.

And as one must investigate his adversary's arguments to be able to intelligently oppose them, he broadens his own ideas, increases his own knowledge, in so doing.

Agnosticism was subdued by Catholicism, after five centuries' warfare, but the heresy left its indelible traces in the beliefs and the thoughts of the orthodox, and to this day its dark waters tinge the pure stream of Christian belief. The Inquisition found it necessary to send to the stake one of the prelates who had been most active and influential in defining the limits of orthodoxy.

A vital change was exerted on medical thought and belief by the contest with homeopathy. Not that the doctrine of *similia* received credence, but the success of its votaries opened the eyes of the "regulars" to the natural course of disease processes, their tendency to self-limitation and spontaneous cure. We no longer talked of "curing" smallpox; we learned that many tmies when we had believed our remedies worked a cure, the happy ending was due to the completion of the disease process, and the final triumph of the forces of the body—possibly aided by our blind efforts, *probably* in spite of them.

Therapeutics received a rude shock. Heretofore we had administered our remedies, and the patient got well; *ergo,* we had cured him. But now we began to distinguish between consequences and sequences, between *post hoc* and *propter hoc.* The result was an overhauling of our materia medica, a questioning replacing the previous faith.

Then came the great development of pathology. Investigations showed the presence of certain organic lesions as the result of various diseases, and we asked ourselves whether we possessed remedial agents that had power to remove these lesions, and replace the affected cells by healthy ones, and how they did it—and we had to confess our inability to reply. A widespread distrust of drugs resulted. Dealing with dead tissues we failed to reflect that there we had only the ashes of a burned-out fire before us, and that the appearances did not correspond with the conditions present in life. We only knew we had before us tissues degenerated, cells vanished, structure tangibly impaired, and we asked ourselves if any drugs could be expected to rebuild new cells, to create new tissues.

Then came the third and most deadly blow to the therapeutic faith, in the recognition of the effects of mental suggestion. Here was the ready answer to the man who adhered to his experiences, who still claimed that he had obtained useful results from the administration of drugs—it was suggestion! Innumerable instances accumulated as to the efficiency of suggestive methods; innumerable forms of the method arose in popular quackeries.

Man must have faith; and when, attacked by the Christian scientist and kindred delusions, our patients appealed to us, we had nothing with which to respond—we had lost all

*Read before the Tri-State Med. Society, and published in Alkaloidal Clinic for July.

faith in our own methods and implements; we had concluded that there was nothing in them but suggestion; and the public inevitably turned to the quarter whence came the light of faith and hope.

In despair the profession turned to mechanical therapy. There alone was apparently firm ground on which to stand. Surgery arose to a pre-eminence hitherto unheard of. We can not cure a suffering organ but we can cut it out, was the cry. We can rebuild strength, develop muscles, and do many other good things, by applying the forces of nature, fresh air, diet, exercise, massage, etc. We do not in the least know what are electricity in its various manifestations, the new lights recently discovered, radium, the x-ray, etc.; nor do we know what they will do to the human body, diseased or nomarl; but at least they are "new" and we will try them. Anything, everything, so it is not a drug!

Meanwhile two forces were at work, destined to supply materials for the renaissance of therapeutics, by furnishing a rational basis therefor.

First of these was the study of the vital phenomena, the physiology of the living body. The internal secretions, their derivation, nature and uses, the cellular elements of the blood and their powers, began to attract attention. How far this study has progressed, and what promising results have been obtained, one may realize after a perusal of Sajous' remarkable book. The study of the living pathology followed, the toxins and antitoxins; and it seems now to be realized that these are more vitally important to us as physicians than is the investigation of their effects as shown in the dead body.

While in both these lines the work is simply a preliminary mapping out the ground, already the results obtained are forming a basis for rational therapeutics, and afford a most promising outlook for future development along this line. After resting for over a century as an isolated fact, unsupported by any other item in the knowledge or belief of enlightened man, vaccination has been paralleled, explained, and our working theories brought into harmony with it.

In another department the knowledge derived from investigation has awaited an advance in other directions before being practically utilized. Experimental studies have established a mass of data concerning the exact operation of many therapeutic agents, which knowledge has not yet been applied in the field of practice. The reason at first sight seems to be trivial, but in fact it requires a profound knowledge of psychology to comprehend it. The men who made these experiments were compelled to resort to the active principles of drugs in place of the cruder forms, in order to secure exact and uniform agents from which exact and uniform results could be expected. But the profession did not employ these active principles, but the tinctures and extracts; so that after determining the precise powers of the former, the physician went back and endeavored to secure some sort of an approximation to these by the use of the cruder drugs. It is only quite recently that an attempt has been inaugurated to bring into actual use these investigations, by employing the active principles themselves as remedies. The chief obstacle to this movement is one little creditable to our intelligence—the superstition with which the remedy is viewed by the doctor.

For the doctor has given his remedy with a faith based on superstition born of actual ignorance, rather than as a well-comprehended agent which can be depended upon to do certain definite services when judiciously applied. For example—there is little of the mysterious about cocaine; we know pretty accurately what it will do; its uses and its dangers, and we apply it when we need those peculiar proper-

ties it possesses. But as to coca—that is different. We know we get the effects of cocaine from it—but there is something more—and we revolve in our minds the wonders told of its employment by the ancient Peruvians, the mysterious manner in which it removes the sense of fatigue, enables the user to do incredible tasks without rest or food; and though we do not know if this is true, or if so, how or why the drug acts; or what is the pathologic condition it removes, and if its removal be really desirable still we prescribe the preparations of crude coca with the hope that it may do its miracles for us also.

Fairyland is enticing and loth we are to leave it; our feet drag and we give many a backward glance as, like our parents leaving Paradise, we turn into the commonplace, everyday world where we must work for all we require. Achilles and his supernatural protectors are vastly more to our taste than working out the problems of the dirigible torpedo, but modern warfare demands the latter. And modern medicine demands, too, the application of human science and art, and not a reliance on the hidden, mysterious or miraculous. It would be a God-send to our profession if we could sweep away all the unknown, the taken-for-granted, and limit our therapeutics to the demonstrable, the little for which we could give an intelligible reason.

We would be compelled to begin with a study of disease processes. Before applying a remedial agent we must appreciate the exact condition, and the nature and extent of the deviation from normality. This in turn would compel some of us to restudy our physiology—and very few of us would be much injured thereby. Then, when we have recognized the abnormal condition, we must know what to apply to restore physiologic equilibrium. There is no need or room for the unknown, the uncertain, the mysterious, the supernatural, here; we have many drugs that are known to exert effects on the human body and its organic functions; we know that disease causes a loss of the normal equilibrium in the operations of the body and its organic functions; and all we have to do is to combine our knowledge in these two departments, and we have rational medicine as the result.

At once we are met by the objection that it presupposes a knowledge of physiology that is perfect, and a similar knowledge of pathology and therapeutics. But while we are waiting for such perfect knowledge we may wisely apply what we do know. Let it be but a solitary fact, such as the need of regular fecal evacuations and the recognition of constipation as abnormal and on this alone we may build a respectable and useful practice. Every fact we add to this increases our usefulness. The tracing of that one fact to its ultimate possibilities as to its causes and effects, and its therapeutics, will give the investigator more real knowledge of the three necessary subjects—physiology, pathology and therapeutics—than the average practician possesses today.

The work already done in experimental therapeutics is vast and of inestimable value; yet it seems to be known only to a few special students. But the advances in physiology have already rendered it necessary to do this work over again, from a different standpoint. The former workers limited themselves practically to observing the effects of remedial agents upon the heart, the lungs and the temperature. Now that we know something of the internal secretions, the whole materia medica must be retested as to these. Many a time the practician has affirmed that he obtained valuable effects from a drug, which the investigator pronounced inert. Now we want to know if the man of the laboratory was not mistaken, and the man of the clinical field

right. The work in sight has no limits—what will it be in the future?

We have here the elements from which the renaissance of therapeutics is to spring; the application of comprehensible known facts, the use of definite uniformly-acting remedial agents, applied to recognizable pathologic state, and their administration not guided by any rule of thumb but continued until the desired results are manifest; and sweeping into oblivion the whole ancient mess of superstition and ignorance misnamed therapeutics until the present day. And the sooner the medical profession recognizes the need of this renaissance, and its practicability, the sooner shall we see an end of the popular prevalence of such delusions as are at present attracting the crowd.

Chicago, Illinois.

SPECIAL THERAPEUTIC ARTICLES.

A STUDY OF SIX CASES OF SUNBURN, WITH SOME NOTICE OF THE TREATMENT.

By Woodbridge Hall Birchmore, M. D., New York.

I am tempted to the discussion of the injury which we call Sunburn and of the treatment of the lesions which results from it, because it seems to me that, as the result of the interest which is naturally taken in injuries which are more likely to be fatal to life, a lesion such as this, which is supposed to produce no result other than mere discomfort, has been neglected. In other words, I would show that Sunburn is no trivial injury; that it is not more just than it is kind to accuse the person suffering from Sunburn of making a needless fuss about nothing of importance, and I fear that surgeons of past generations by their expressions of professional contempt for the Sunburn, as a lesion, have themselves taught the populace not to apply to us for relief, but to seek aid, and all too frequently to find it, at hands other than our own. In fact, I think that if we, as surgeons, shall pay more heed to this injury than our fathers did—an injury which oftentimes causes very serious and even dangerous symptoms—we will not only be fulfilling our obligations to relieve pain anywhere and everywhere we find it, but also we will be conquering for its proper occupants a field of usefulness and source of income which has been altogether too commonly neglected. Consider for a moment the reason of this attitude towards Sunburn, and why our predecessors have taught the popular mind to dress a Sunburn as best they may, or anyhow they can, rather than apply immediately and directly to the physician for aid? Is it not because until recently, the easily serious character of the injuries in certain cases has been misunderstood? Our fathers and those who went before them had no acquaintance, as we have, with chemically active rays by which a living tissue may be disorganized and its vitality utterly destroyed, while almost no apparent injury is produced. In fact, in a surgery of comparatively recent date, the treatment of burns and the pathology of the injury hinges upon "the blister" and "the direct destruction of tissue," the implication being that, unless these two conditions existed, the case was trivial. In Sunburn we may find blisters, but the superficial resemblance between a horribly painful Sunburn—a Sunburn which, by the excruciating torture it may inflict, will bring a person, not more sensitive than the ordinary, to delirium and pain-exhaustion—will look so trivial that those about will usually rely on their own unaided

forts, calling in our professional aid only when they are alarmed by the collapse of the un-exhausted sufferer. It seems to me that we owe a duty to ourselves as well as to humanity to correct the popular misconception of the importance of Sunburn as a lesion, and thus provide against the imposition by the laity, of a vast amount of needless suffering upon their nearest and dearest because they are satisfied to act for themselves, saying, in justification, "It is only a Sunburn; of course it hurts; but a little pain does not matter," instead of seeking professional aid forthwith, as should properly be done. The trouble is that a very little pain frequently portends much else, and in some of these cases of Sunburn it rises to the intolerable.

With this object in view, I seek to draw a lesson from the cases of Sunburn here discussed, and from the treatment used, because I seem to see in them a peculiar proof that in Hamamelis—a remedy always accessible and found practically in every household, but which is singularly neglected by many members of the profession—exists an agent which will prove useful again and again, not only in true Sunburn, but in constantly occuring injuries resembling Sunburn in respect to the intensity of their action upon the superficial nerves.

The prime necessity, however, is to emphasize my belief in the importance of Sunburn *as a lesion.* The impression of its insignificance is so widespread that it would be somewhat difficult to present the matter with sufficient force to carry general conviction. Nevertheless, it may be possible to increase the interest sufficiently to persuade others to carefully investigate the proposition made herein, and if this be done, I believe the same conclusion as my own will be reached, to wit: that a bad case of Sunburn deserves our best attention and that, by reason of secondary symptoms, even a very moderate case may cause anxiety enough.

It is taken for granted that the classical division of the entire period of indisposition into the three stages of "painful blush," "the stage of blisters" and "the stage of cuticular fissures" will be accepted; also, that the ordinary assumption that the intense and exhausting pain of the last period, with its symptoms of nervous collapse, is due to the exposure of nerve and organs, will be acted upon, even if academic doubt as to the facts be enterained. A most important point, however, and one which, if it has been put on record, I have failed to find, is that the utter breakdown of the nervous inhibition from exhausting pain *may occur* without the physical injuries by which it is usually accompanied. It seems to me to be a further matter of importance that, in any case, a period of some hours intervenes between the period of exposure and the appearance of these symptoms, the length of the period, apparently, being quite independent of the length of the exposure, and of the obvious injury.

The following cases have been selected from a very large number of which I have the records, and while collapse from intense pain is a common and critical symptom, the cases otherwise present no uniformity:

Case I—A young man, 17 years old, had been in a boat from 11 until 1 o'clock, was wearing no flannels or underwear, white shirt of open mesh, the spaces representing 9-16 of an area. On landing, he remarked carelessly that he "Guessed he was sunburned." He did not change his clothing, but went to supper with a handkerchief tied around his neck in place of a cravat. At 8 P. M. his room-mate sent for a physician, there being several at the hotel, saying that "Mr. A. had fainted." Knowing my interest in cases of Sunburn, the physician called to

the case was good enough to request my company. Mr. A. was coming out of his fainting fit and was almost insane from the pain, which he said "began to come on while he was eating his supper, making him feel faint. He had, therefore, left the table and gone directly to his room." The youth was evidently suffering terribly, but it was equally evident that the pain was truly paroxysmal. In the intermissions his pulse was only 70. On recurrence of the pain, however, it became weak, thready, even intermittent and the rate rose to 100 or therabouts, as near as could be determined from the condition. The patient was plucky and tried to conceal his agony; but his heart-action and the perspiration on his forehead told the tale, notwithstanding, as did also the spasm, truly tetanoid, of the underlying muscles; temperature was subnormal by a couple of tenths (mouth), as was to be expected after the recent collapse. The physician who had been called proposed an hypodermic injection of morphine, to which the youth, in my opinion, very properly objected. To me, the case had a familiar look and I proposed absorbent cotton compresses, not dampened, *but wet* with extract of Hamamelis. I informed the physician it might be uncomfortable for a few minutes, but that relief would quickly follow. My assurance was hardly credited. After a little urging, hower, he agreed to the treatment provided I would make the application, as he had no experience with it. When the young man was informed of the treatment to be adopted, he surprised me by stating that he had a bottle of the extract—Hamamelis—given him by his cousin, a surgeon, who had told him to use it if he were sunburned; he also had the cotton. We made the application, putting the compress on immediately after the passing of the paroxysm and, to our surprise, found the skin was in great measure anaesthetized. The young man shrank from the idea of contact with the cotton wet with the extract, but assured us he felt nothing but intense cold. The following paroxsyms gradually diminished in violence until the third, which was the last. The cuticle desquamated and the new cuticle was much pigmented; but examination made the next morning with oblique light and a Brucke's lens giving an amplification of 100 times linear showed absolutely no evidence of any injury. I remained with him until 11 P. M. and at the request of the physician whose case it was, put on a fresh compress, fastening it in place with a roller. The patient slept until late the following morning and on awaking declared that, beyond the stiffness of the muscles, which he insisted was "amazing," he seemed none the worse.

The attending physician and I discussed this case many times during the next ten days. He declared there was no question as to the reality of the pain, insisted that the lesion must have been in the nerve terminals, but how were we to explain the action of Hamamelis? Beyond confession "It certainly is vastly more powerful than I ever imagined," he would not commit himself. Plainly, we had no data to go upon to suggest any explanation as to the why and wherefore. We could only say, "We used Hamamelis and it gave relief," but why it did so, was beyond us.

Cases 2 and 3 were those of two young ladies who had been boating on a lake in Wisconsin. On examination with a powerful magnifier, it could be seen that the skin was checkered by very deep fissures, actually appearing to penetrate the cuticle in spots. In the main, however, it was a case of painful blush. No complaint was made for over an hour, when both grew rapidly worse. I became so concerned that I gave each of them

an eighth-grain of morphia sulphate. I realized that it was really of small use except as a provison against the threatened collapse. I also used the compresses of cotton, wet with Hamamelis. At first I added 2 cem. of 4 per cent. cocaine muriate to 98 ccm. of the extract, because I feared the action of the vehicle on the broken surface. After that I used the Hamamelis alone. It is certainly a great thing. I only wonder why it has not been understood before. Yet, do we understand? I hardly think we do. I used it this time because advised to try it, and determined to use it in my next case because my first had brought me to the belief that it was the right thing to do. Its action is sedative to the extent of being, rather, locally anaesthetic.

Cases 4, 5 and 6 were also those of girls and occurred only a few years ago. Here I was again a witness. The surgeon attending the cases used Hamamelis simply because there was nothing else at hand, and he seemed as much surprised as delighted at his results. Why he has never made use of his material, deponent sayeth not, for he has written extensively on burns. He may have wished not to confuse with injuries which have made his name famous one which, while *called a burn*, is not such, but a veritable lesion of terminal nerves. Anatomically, these cases were complicated, all of them presenting all three states typical of the lesion and there was unquestionably a good deal of doubt in his mind as to which of the three conditions was responsible for the obvious collapse. I was inclined to think them due to the stage of cuticular fissures. But he reminded me of a number of cases in which collapse had occurred without the leision more definite than the blush. This theory of the disturbed heart's action was vaso-motor disturbance, propagated by those nerves which seem to be connected with the vagus from "the sympathetic" rather than the "accessory" and to be connections of Remak's ganglion. If this is so, we may assume that the source of usefulness of the Hamamelis is due to its slight anaesthetic action of which we are conscious, representing a powerful action, of which, necessarily, we cannot be conscious, upon these subcuticular members of the vascular nerve-plexus. The narratives of cases 5 and 6 are so closely parallel to cases 3 and 4 as to make it superfluous to indulge in details, practically the only difference being that this surgeon was as well aware as I of the powerful action to be expected of Hamamelis in the premises when case 6 presented for attention. No cocaine was used, as it was considered unnecessary. He did, none the less, give a considerable dose of Sulphate of Morphia to all these young ladies (per os) to insure sleeping, but only after he had made successful use of the Hamamelis to relieve the pain and the excitement incident to the Sunburn.

Are we, then, in any position to make deductions in regard to the action of Hamamelis further than those at which we have arrived? Hardly, I think. At the same time, however, I cannot but feel convinced that it is a mistake to regard this simple, the Hamamelis Virginica, as a remedy of so little consequence that we can afford to neglect or ignore it. Just as cocaine seems to act powerfully upon all the centripetal-sensation-carriers, or upon their nerve-end-organs, and thus make its action easily manifest to consciousness, so does *Hamamelis seem to act upon those centripetal nerves connected with the vascular system.* This would explain its relief of pain in Sunburn if we admit—as has been held by some bright man—that the pain in Sunburn (not the pain and soreness due to the heat alone; but the sequent, paroxysmal and exhausting pain) is vaso-motor in origin and strictly parallel in development to, only ten

thousand times worse than that which follows the restoration of the stagnant blood-current when position or other circumstance has put one's foot to sleep.

It would seem to be advisable to add a few words with regard to the special preparation to be chosen for use in these cases. In all of them the preparation employed was the pioneer of officinal preparation familiarly known for the last sixty years, as "Pond's Extract." So universally is this standard preparation recognized as a synonym, that when Hamamelis is mentioned, one's thoughts turn instinctively to "Pond's Extract," which descriptive title is equally suggestive of Hamamelis Virginica.

Undoubtedly, it would be very much to the purpose if those who have such matters in charge would make this universally officinal preparation also official. We are assured that its manufacturers are perfectly willing that this be done, and since they are willing to give to the profession their method of manufacture, there appears to be no good or valid reason why both suggestion and offer should not be entertained. No objection can reasonably be urged, except, perhaps, that there is already an official fluid extract or tincture. But in his standard work on "Therapeutics" Hare, after saying that it is "A plant of extraordinary remedial power," adds the following highly significant statement, "The one official preparation of the U. S. P. is the fluid extract (*Extractum Hamamelis Fluidum, U. S. Liquidum B. P.*), dose 5 to 20 drops (0.35—130 c. cm.). The dose of the distilled extract, which is not official and is a perfectly clear liquid, is from 30 drops to 1 drachm (2.0—4.0 c. cm.), and this is much the best preparation for internal and external use. *Unfortunately, the preparations of the drug vary very much in both odor and efficacy. Some of the proprietary preparations of witch-hazel are more active than those ordinarily dispensed in the drug stores. This is due to greater care in their preparation, and to the fact that they are sold in original packages without exposure to the air.*" Since, however, an official extract (tincture) is included in the U. S. P., it should be worth somebody's while to see to it that those who claim that such is "manufactured in our own laboratories for our own trade, carefully following the directions of the U. S. pharmacopoeia," really do this thing which they say they do. They should, in truth, "follow the directions of the U. S. pharmacopoeia," for the U. S. pharmacopoeia knows nothing of any use of methyl alcohol, except in a very limited way, in a small group of analytical operations. It has no knowledge of the use of the "Columbia," "Colonial," "Eagle," or any other of the variety of methylic spirits now on the market, for any purpose, and the circumstances under which it would suggest the substitution of methyl-alcohol—the pyro-acetic spirit—for grain alcohol are simply unthinkable. In regard to such criminal conduct words are needless, but Prof. John Uri Lloyd stated the case plainly when he said that "No Pharmacopoeia of any country; no Dispensary of any land; no Materia Medica extant, sanctions wood alcohol in any place whatever—be it as a solvent, a menstrum, or a final constitutuent."

The fact that dishonest and evil principled, rather than unprincipled, manufacturers should have been capable of what is rapidly coming to be regarded as a criminal substitution is enough to warn anyone that the only safe preparation to use is one coming from those who have every conceivable cause for doing all that is upright and honorable in the matter, if for no other reason than that the interests at stake are too important to be jeopardized by any questionable act whatever.

So serious has become the peril of substituting methyl for ethyl alcohol in the manufacture of medicinal extracts for internal as well as external use, that the House of Delegates of the A. M. A. at the meeting of the Association at Atlantic City last year was moved thereto by the sense of actual peril caused by such cases of reckless criminality as had been brought to their attention: "*Resolved*—That the House of Delegates of the A. M. A., recognizing the dangerous character of wood alcohol and liquors containing it, believes that *it should be placed on the list of poisons* and urges federal and state authorities *to take steps to protect life and eyesight from its pernicious influences.*"

Until legal authorities shall have produced proof that they can and will condignly punish the user of wood alcohol in pharmaceutical preparations, as is done in the similar adulteration of "whiskey," the only thing to do for safety is to use exclusively a preparation which, like Caesar's wife, is beyond suspicion." Such a preparation, for instance, is Pond's Extract of Hamamelis Virginica—a product on which the manufacturers publicly stake their reputation, in contra-distinction to manufacturers of the common commercial witch-hazels of the market—who as studiously conceal their identity, whose products have no standard of purity or strength, and so many of which have been found, on analyses, to contain wood alcohol (poison), or formaldehyde (poison) or both of them as to have excited the very general comment of the profession, and medical press throughout the country.

Dropsy.—A dry diet is recommended to patients with renal dropsy. Restriction of fluid in such cases does not interfere with elimination, and it does help to remove dropsy. Hutchinson (Medical Monthly).

SOME NEGLECTED SYMPTOMS OF NON-SURGICAL GYNECOLOGY.*

By John A. Hale, M. D., Alto Pass, Ill.

It is but a lack of inquisitiveness on the part of the general practitioner that has brought about a condition of things in gynecological practice that warrants the assertion so often reiterated in current surgical literature that "Modern gynecology belongs, practically, to the field of operative surgery."

The successful physician, with a characteristic personality of inquisitiveness, can boldly refute such assertions and substantiate his refutation by the thankfulness of a happy clientele of womankind released from a thralom of suffering by his inquisitiveness.

Diseases of the female organs of generation are more common today than any but a physician can suppose, and surgical gynecology has become a necessity from an early neglect of backaches, spineaches and headaches, followed by irregular, scanty, painful, delayed or suppressed menstruation during girlhood. The inquisitive physician rushes not into instrumental interference, nor sends such patients to certain specialists for officious mutilation, but first a volley of seek-farther questions at the patient which elicit the information that such patient passed her days of approaching puberty in an over-crowded public school, or worse, in a jail-like boarding school for young ladies, adding fuel to the fire of antagonism between brain and indigestible foods, the body growth lags behind, leaving the imprint of the unequal struggle on the reproductive organs.

With poorly established sexual functions and a perfect disregard for menstrual week, the undeveloped woman leaves school to plunge into a vortex of social dissipation, fol-

*From the Medical Herald, of St. Joseph, Mo.

lowed later by an assumption of wifely duties and responsibilities toward a husband who has seen only her bewitching face and not her frail body.

It is hard to fathom the reason why so many such wives at first tolerate marriage obligations and later resent and loath them when the poor, broken-down sexual system refuses longer to continue functions for which it was made, but carelessly unfitted?

Is not such a condition a cause for dread of maternity on the part of the woman which often leads to criminal abortion, with all its attendant sequences?

To the inquisitiveness of the successful physician must be added a power of positiveness, wherein he may teach both the husband and the wife something they should know before their carelessness brings about these later conditions which require the necessity of mutilation.

The woman suffering from continual nervousness, weariness, wakefulness, headache and backache needs the services of a physician, and not a surgeon. Likewise such symptoms as scanty, painful, delayed and suppressed menstruation should be under the care of a physician and not an over-zealous surgeon. Prolapsus, leucorrhea, ulcerations, chronic inflamation, congestions and enlargements are purely the outcome of neglect of just such symptoms as named. The first-named symptoms are but the assertions of Nature that she is tired of the unequal load, and if not relieved she will resist no longer, come what will.

A judicious investigation of seemingly insignificant details and close application to the technique of examination in the early stages of such cases will reveal constipation, congested mucus lining of the vagina, and irritable bladder, with diffuse hyperaemia of all pelvic structures and loss of organic or respiratory rythm; that subtle thrill which extends over the whole body synchronous with the beating of the heart and motion of the lungs, plainly perceptible to the trained eye looking upon healthy pelvic viscera. Quick must be the relief of this engorgement, with its pernicious nutrition of the parts and concomitant accumulation of excrementitious matter.

First and foremost in the treatment of this condition comes the remedy of absolute rest to the parts, and then, but no less important, is the removal of the improper dress and the re-establishment of abdominal breathing to restore proper circulation in the pelvic viscera. Treatment for the removal of constipation is self-suggestive; rest we can enjoin upon our patient, and abdominal breathing we may advise, but all animal cells, whether single or united in tissues or in organs, consume a certain amount of matter, and those chemical changes by which material brought to the tissues and organs by the blood and transformed into other products through the activity of the living cells which liberation of life energy, must be maintained by a continued inherent thrill or respiratory rythm and a constant supply of chemical products. This same chemical agent must not induct a destructive blood metamorphosis, but supply food for the debilitated vitality. For such action we must seek some combination of the old and well-tried remedies of ergot and apium, with acceptable haemagogues.

The questionable action heretofore exhibited by various preparations of such remedies has been due, as clinically proven, to the component resinous compounds of the apium in the combination. In Ergoapiol (Smith) the active principles of apium have been isolated and with ergot made to form an acceptable and agreeable compound with invigorating haemagogues, proving of unquestionable benefit in such conditions as mentioned in this article.

When the general practitioner awakens to his possibility, we will have less of these conditions, a continuation of which invariably produces a capillary varicosis, with its train of evils, manifested more frequently by copious and disagreeable discharges called leucorrhea. But even as late as in the last-named condition the physincian will learn that Ergoapiol (Smith) judiciously, consistently and determinedly administered, will prevent much needless mutilation by affecting a cure.

Pre-emption of space for case reports on this subject would scarcely be justifiable, when each reader may cluster the facts as herein stated around well-known principles and evolve therefrom a rational solution of treatment for diseases involving the female genitalia.

NEWS, NOTES AND ANNOUNCEMENTS.

A Gratifying Endorsement.—It will be a great source of satisfaction to the many physicians who use Pepto-mangan (Gude) to learn that this preparation has received a splendid endorsement at the hands of the Government Commission appointed to investigate the causation and treatment of anemia in Porto Rico. As was expected the hook worm was found to be the most prominent cause of tropical anemia, and the most reliable results in the treatment of the conditions presenting were derived from thymol and pepto-mangan.

The report of the commission is of great interest as well as of marked scientific value, and the high testimonial paid to pepto-mangan demonstrates anew the worth of a preparation that has long enjoyed the confidence of the medical profession. The unbiased nature of the statements made in the report give unusual weight to the conclusions.

The Rutland County Medical Society. —The Annual Meeting of the Rutland County Medical and Surgical Society was held at Prospect House, Lake Bomoseen, Vt., Tuesday, July 11, 1905. The meeting was very enjoyable and the following program was prepared:

1. Report of officers— Secretary, Treasurer, Auditor, Censors.
2. Election of new members.
3. Election of officers.
4. New business.
5. President's address, E. G. Roberts.
6. Osteitis Deformans (Pagets Disease), Dr. Edwin A. Locke, Mass. Gen'l Hosp., Boston, Mass.
7. Discussion, Dr. W. N. Bryant.

After the meeting an excellent banquet was served in the dining hall of the Prospect House. The anniversary chairman was Dr. Dr. W. W. Townsend, and he served in a most acceptable manner. A pleasing feature of the affair was the large number of ladies present.

"Walking down Washington Street," says Dr. W. C. Cooper, of Cleves, O., "I met a patron of mine who was hurrying to my office. He was white with scare, and great beads of sweat stood on his brow. He informed me that he had just swallowed, by mistake, half an ounce of a strong tincture of aconite!

"I requested him to open his mouth, which he did, when I squirted a mouthful of tobacco juice down his throat. For the next minute every second of his time was divided between vomiting and trying to punch me. In order that he might give his undivided time to puking I rapidly perspectified into invisibility. It was true that he had swallowed the aconite, and it is true that he recovered. My method was not esthetic, but it included all the difference there is between a live and a dead man. It goes without the saying that no decent doctor will chew tobacco, but it is also true that, sometimes, good will come of evil.—Alkal. Clinic.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., July 25, 1905.

EDITORIAL.

PROPRIETARY MEDICINES.

The proprietary medicine question came in for much attention at the Portland meeting of the A. M. A., as was expected. With one or two glaring exceptions the papers and discussions along this line were temperate and fair minded in tone. Dr. Billing's paper, however, was of the hydrophobiac character and like all such ebullitions, which have their inception in rabid antagonism, was of no assistance in helping to solve the presenting problems.

The section on Pharmacology and Therapeutics went at the question in a more considerate and conservative way, and unanimously passed the following resolutions which were prepared by a special committee:

Resolved:—That it is the sense of the section on Pharmacology that all proprietary products should have titles as nearly descriptive as possible of their active constituents or elementary composition; and while we deplore the present necessity of trade names and titles we recognize that the evils of substitution are so prevalent that the use of such names and titles cannot be avoided in the interests of honest progressive pharmacy. It is, however, the further opinion of this section that many if not all of the objectionable features of proprietary products can be eliminated—first by the use in connection with the trade name, of some sub title which will express in scientific terms the nature and character of a remedy's composition, and second, by the use on the label or in the disseminated literature, of a descriptive formula which will exhibit the character and proportions of the active constituents.

In our opinion, these resolutions deal with the proprietary medicine question in a fair and rational manner. As we have said before we earnestly believe that manufacturers of honest proprietaries are perfectly willing to meet all legetimate demands on the part of those whose patronage they seek, but any demand for a complete working formula *is not legitimate,* and this ought to require no argument. Indeed, a manufacturer who submits his process and working formula to the public after having perfected a drug or a preparation, is not only robbing himself and spelling his own ruin, but he is directly fostering the evils of commercial piracy and substitution, both of which invariably tend to lower the standards of pharmacy and pharmaceutic products.

A physician has a right to ask, and what is more important *it is his duty to know* the nature of what he prescribes, or, in the words of the above resolution, "the character and proportions of the *active* constituents." The matter of the vehicle, or the presence of substances to increase palatability or pharmaceutic excellence do not enter into the scientific question at all. Hence, if the elegance and evident worth of any special combination of drugs commends itself to a physician's needs, we maintain that his scientific status is in no wise jeopardized if he knows nothing further concerning such a remedy than the "character and proportions of the active constituents." Such knowledge will amply justify the application of any rational combination of drugs to

diseased conditions, and the results obtained will *alone* justify a physician's continued use of the same.

The keynote then, of the whole question so far as it concerns an honest physician is the worth of a product and the results he can obtain with it. The administration of medicines is a tentative process at the best, and the individual equation in each case, comprising as it does all the manifold phases of idiosyncracy, pathologic processes, functional variations, age, sex, etc., etc., should always be given greater consideration than any arbitrary rules of dosage. A physician, therefore, who uses remedies with due regard to the needs of each patient will never do harm whether he uses proprietaries he is familiar with, or any other form of medication.

The prime requisite in the whole science of therapeutics is first, that a physician should know the usual action, as determined by the previous experience of himself or others, of what he gives to his patient, and second, that he should always attempt to fit the "character and nature of the active constituents" of any remedy to the special needs of each individual case.

We maintain that the immediately foregoing has little to do with the methods and details of pharmacy or pharmaceutic chemistry, and the person who seeks methods of manufacture in regard to any man's created products, is trespassing on rights as sacred and time honored as those of property itself.

Moreover, it is a pretty safe estimate which ascribes to the person or persons who arrogantly demand that which rightfully belongs to another, those altogether sinister motives which bear relation to nothing else on earth than ugly, despicable, human greed.

THE NEW PRESIDENT OF THE A. M. A.—The election of Dr. W. J. Mayo to the presidency of the great American Medical Association is a high testimonial to American pluck and energy. Although living in a small town of barely 7,000 inhabitants, Dr. Mayo and his brothers have made Rochester, Minn., famous as a surgical center. Too great commendation cannot be paid to men like the Mayo's, whose talents, grasp of opportunity and earnest efforts have contributed in so marked a degree to American surgery. The A. M. A. honored itself when it elected Wm. J. Mayo its President for the ensuing year.

THE TRIP TO PORTLAND AND THE A. M. A. MEETING.—The Portland meeting of the A. M. A. was highly successful and many medical men of the country took the opportunity to visit the far west. All those who went report a splendid trip. The scenery through the Rockies and over the Cascades was delightful and Portland was found to be a truly beautiful and interesting city. We doubt, however, if those who went from the East would be willing to exchange its charms, effete though they may be, for the *outre* atmosphere of the Western States. Opportunity may have its abode beyond the Rockies, but the Easterner will forego a little opportunity for the sake of being in closer touch with the things that make life worth the living. The West is a great, wonderful, growing section of our country. Its possibilities are unlimited and there is much to praise and commend. But, there is a lack, a missing something that the East supplies. These remarks do not apply quite so much to California as to other parts of the West, but few Eastern cities will suffer by comparison with even San Francisco, or its environs.

Incidentally, by far the most interesting and up to date city that the writer found was

Salt Lake City. This city is a municipal model, that many western and eastern cities also, would do well to copy. Inasmuch as a Vermonter, Brigham Young, was its founder, the superiority of Salt Lake City is perhaps not surprising. The Mormon leader may have been a little mixed and imprudent concerning the matrimonial question, but he had splendid ideas in regard to laying out a city and in perfecting a systematic municipal government. Salt Lake City is certainly remarkable for its many beautiful residences, and the city has a clean, prosperous appearance that testifies highly to the community as a whole.

The discomforts of the great American desert must be undergone to make one appreciate the blessings of a hilly and fertile country. These discomforts of heat and dust were forgotten however, when the wonders of the Rockies were reached. One never knows what real scenic grandeur is until he has passed through the Grand Canon and the Royal Gorge.

If any one thing impresses a traveller in America more than another, it is our great railroad enterprises. More than any other factor, the railroads are responsible for the greatness of our country. In the face of insurmountable difficulties and at a cost in money, and lives as well, that the world will never know of, the bands of steel have swept over mountains and valleys, over rushing rivers and fearful deserts, linking town to town, county to county, and state to state. The United States of America ought to hold together, if for no other reason than that the whole country is so well bound by steel.

The American Medical Association very wisely held its meeting in Portland this year. It was a good thing for many of the doctors of America to get far away from their individual localities and see what their brethren, especially of the West, were doing. No one who attended the meeting could have failed to receive benefit from it, and the trip itself was of wonderful educative value.

We feel, therefore, that every doctor or person from the East who visited Portland and the West, must have carried back home something of value, perhaps if nothing else, a new satisfaction or cause for rejoicing that he or she lived in the East!!

The scientific portion of the A. M. A. meeting was nearly, if not quite, up to former standards. Many excellent papers were read and intelligently discussed. If it had not been for the under current of medical politics that created a feeling of insecurity or rather of suspense, the meeting would have gone on record as one of the most successful. There were a good many who expressed themselves as feeling as though "something was going to happen." Through adroit maneuvering, the dangerous places were avoided however, and ostensibly at least, the dove of peace was in good condition at the final adjournment. But there are several vexatious question, which still remain issues, and we fear that the Boston meeting may present surprises all around if any mistakes are made by the management. We believe that there is a growing sentiment on the part of many members for less politics and more medical progress. The A. M. A. has a wonderful opportunity to elevate American medicine by education and the establishment of professional ideals. It can never accomplish its legitimate mission by intrigue and political machination. "One man can lead a horse to water but a regiment cannot make him drink," is a homely expression, but the same holds true in regard to the medical men of our country. Through classified direc-

tories and re-organization schemes, countless medical men may be driven into nominal membership, but such a membership can not count for substantial progress.

It is the medical men who affiliate with the Association because they seek some benefit and are willing in turn to give something of themselves to the sum total of scientific progress, that will make the organization successful. In other words, it is in fostering mutual scientific interests, and in developing the efficiency of American medicine, that will accomplish the only true progress for us all. Education should be the watchword, rather than coercion, for God knows, we need the first, and as honest, independent men are ready to accept guidance, but will combat with all our strength any attempt at force.

MEDICAL ABSTRACTS.

Dyspepsia—F. B. Turck, Chicago (*Journal A. M. A.*, June 10), considers dyspepsia one cause of national decay, hence its importance, not only to the individual, but to the state. He describes the mechanism of digestion and shows how it depends on proper fulfillment of the functions of gastric secretion and motility and how these depend on the general integrity of the splanchnic circulation which itself may be deranged by disorders of the gastrointestinal tract, thus producing the vicious circle seen with many intestinal and gastric lesions. This connection of the circulation is very important in the treatment. If any one of the tripod—motility, secretion and circulation—is disturbed, dyspepsia is the result. The quantity and quality of the food, the times of eating, etc., are specially important in this connection, and in the treatment must be first considered. When dietetic measures fail, however, either on account of infection of the stomach from pyorrhea or nasopharyngeal catarrh, for example, other measures must resorted to. The stomach may be overloaded, and its muscles lose their power, with consequent stagnation and fermentation, and the various cardiac and other general symptoms of the condition. Here lavage may be directly remedial in removing the load and in stimulating the gastric peristalsis. When the mucosa is colonized with germs, however, simple lavage or even gastric douching may not suffice to remove them. He advises the use of a double stomach tube for this purpose, the inlet tube with fine perforations and the outlet with larger ones thus projecting jets with considerable force against the gastric walls and allowing a free outflow through the larger tube. When this is insufficient to detach the colonies of germs from the mucosa his gyromele comes into useful application. In cases of extreme gastric atony and dilation, he uses the gastric bag dilator with air inflation, the repeated use of which will stir up the stomach and restore its motor function. In most cases the simple inflation of the stomach with air, medicated or not, is sufficient. Turck does not consider the use of electricity as of proved value in these cases, and he has not much faith in drugs excepting for the relief of symptoms, as in the use of alkalies for hyperacidity, etc. Antiseptics are apparently efficacious, but he considers them generally unnecssary.

Let the Lungs Alone in Consumption. —W. Hutchinson says that we have learned by bitter experience that we must practically ignore the bacillus in our treatment of the consumptive, and that we are coming to the same point of view in regard to the lungs. Among the reasons of letting the lungs alone in treatment is the fact that very few remedial measures at our command have any specific action whatever on the lungs, and it is being more

and more clearly recognized that consumption is not, properly speaking, a disease of the lungs, but is merely a local (pulmonary) expression of a disease which involves the entire system. We have no tonic or alteratives which will improve the nutrition of the lungs, and even the expectorant drugs have been proved to be lacking in the virtues formerly ascribed to them. Sprays, etc., are ineffectual in reaching the bronchi, and in most cases the so-called pulmonary gymnastics and exercises serve simply to drive the infectious material deeper into the hitherto uninvaded areas of the lungs. The author has already shown that the chest of the consumptive is round instead of flat, and that exercises intended to develop the chest as such, do harm instead of good. Bodily exercise of any kind is now believed to be distinctly injurious, and absolute rest is indicated in any case in which the afternoon temperature rises above 100 degrees. Researches by Robin and Binet made over four years ago on the actual gaseous interchange in consumptives have shown that the tuberculous patient consumes a much greater amount of oxygen and gives off more carbon dioxide in proportion to his body weight than the normal individual. In short, it would appear highly probable that the tuberculous patient is to be regarded in the light of one who is pouring nearly half the heat of the fuel which is burned in his body furnace up the chimney, in the form of smoke. That the food which he takes, instead of being assimilated and decomposed by anaerobic processes in the body cells, is burned in the blood and in the lungs. Any means, therefore, which will tend, so to speak, to clog the throat of his chimney and prevent this fatal escape of heat and energy, whether by drugs like creosote, iodoform, cod-liver oil and arsenic, or by pouring in an enormous quantity of food rich in heat value, will tend to restore the balance of gaseous interchange and enable him to return to the normal.—*Med. Record*, April 29, 1905.

Typhoid Fever.—William Hanna Thompson, in the *Medical News* for March 25, states that about the middle of the second week of typhoid fever, the symptoms often indicate in which of the three directions the chief danger of the patient lies. The first of these is death due mainly to continued hyerpyrexia. The temperature tends to reach a high grade in the mornings as well as at night, and is not affected unless it be increased by the cold bath given for 15 or 20 minutes. It is in these cases that the patient should be dealt with just as we use the ice bath in sunstroke, or in the hyperpyrexia of acute rheumatic fever. He has kept such typhoid patients in an ice bath from 33 to 48 minutes with full recovery in each case, and finds that unlike the hyperpyrexia of rheumatism, when the fever is once broken, its subsequent rises are as easily controlled as in ordinary cases. The second tendency is an early development of tympanites, with or without diarrhea, with pronounced tremor of the tongue, as well as dryness and an anxious expression on the face. These patients should have only about one-half the average amount of milk given to them, and in smaller quantities at a time. Five grains of resorcin in an ounce of sweetened water with 20 to 40 gains of the subcarbonate of bismuth, and in some cases adding five grains of sulphocarbolate of soda to each dose. These patients should abstain longer than others from taking solid food on the subsidence of the fever. The third class are those of severe toxemia, and of general prostration from the beginning. The temperature shows a comparatively low average, but the chief features are those of weakness of all the functions. Deaths occur from

pure asthenia. He would give such patients 200 drops of tincture of chlorid of iron four times in 24 hours, with three grains of quinin each time, and one-sixth of a grain of calcium sulphid, while the cardiac stimulant camphor should be used hypodermically; camphor he gives subcutaneously in seven and one-half grain doses dissolved in 20 minims of sterilized almond or olive oil.—*Cleveland Med. Journal.*

Cerebrospinal Fever.—J. C. Wilson, Philadelphia (*Journal A. M. A.*, April 29), reviews the history, causes, symptoms, treatment, etc., of epidemic cerebrospinal meningitis, a disease which has at present a special interest on account of the lately occuring epidemic in New England and in New York. While it has been recognized for about a century, most of our knowledge of the disorder has been acquired of late years, and largely through the work of our countrymen. Councilman, Mallory and Wright. Councilman's recent paper (*Journal A. M. A.*, April 1, 1905) is referred to by Wilson. Formerly the communicability of cerebrospinal meningitis was doubted, but it is now admitted that if the nose, ears or lungs are affected, it may readily be conveyed from one person to another. Second attacks are very rare: it is probable that one attack confers a persistent immunity. The germs are found only in connection with the lesions of the disease, but mixed infections are not uncommon. The symptoms are most diverse, there are no prodomes and the period of incubation is unknown. In the malignant cases the symptoms of inflammatory lesions of the brain and cord and those of a general malignant infection are both overwhelming. The author goes at some length into the description of the general symptoms and those of the anomalous types, the fulminant form, the abortive, the intermittent and the chronic types. Few diseases vary more in their severity and mortality, or are followed by more complications. The diagnosis may be difficult, but if meningitis be present, it is not usually embarrassing during an epidemic. In doubtful cases lumbar puncture should be resorted to, and the presence of the meningococcus in the cerebrospinal fluid ascertained. The differential diagnosis between this form and tuberculous meningitis may, in some cases, be far from easy without this. The mortality of different epidemics varies between 20 and 75 per cent., the average is estimated by Wilson as near 40 per cent. In the mildest cases no treatment is required; in the malignant ones none is effective. Quiet, nutritious diet, cold applications to the head and spine, laxative doses of calomel in the beginning of the attack and opium are recommended, the last-named drug being regarded as indispensable. For prophylaxis, cleanliness and avoidance of overcrowding in times of epidemics, isolation and sterilization measures, and in case of successive attacks in the same family, abandonment of the dwelling and thorough disinfection are advised.

Digitalis.—H. O. Hall, in *American Medicine*, for March 25, calls attention to the fact that digitalis even in moderate doses often causes halucinations and delirium, symptoms which are mistakenly attributed, if noticed at all, to the disease from which the patient is suffering, when in reality the drug is the cause of the delirium. One case is noted in a hospital patient where the delirium became so pronounced that the patient was about to be committed to the hospital for the insane, but the entire withdrawal of the digitalis relieved the symptoms, and the delirium disappeared. Several other cases are cited, in which its use was followed by mental disturbance and delirium, and he believes that in all cases in which

dilirium occurs in patients suffering from the heart disease, it would be well before deciding the delirium to be due to heart affection (the "delirium of heart disease"), to prove by elimination that it was not the result of medication,—the toxic effect of digitalis or other heart stimulant that is being administered.—*Cleveland Med. Journal.*

CIRCUMCISION.—G. T. Vaughan, Washington, D. C. (*Journal A. M. A.*, June 24), performs circumcision as follows: He attaches three hemostats to the preputial margin, one at the frenum and the other at the sides, in such a way that when traction is made the inner skin of the prepuce is tightly stretched and the outer skin is lax or nearly so. While an assistant keeps the parts on the stretch, he cuts off squarely the portion beyond the glans, slits up and trims the remaining hood of inner skin covering the glans and unites it to the outer skin by a continous suture of fine catgut, securing with the suture any bleeding vessels. The blood is then wiped off and the foreskin pulled forward to cover two-thirds of the glans, and the patient put to bed. No dressing is required. The advantages he claims for this method are: the line of union is covered and protected from infection. No dressing is needed. Little or no danger of adhesion of prepuce to glans, or of contraction of preputial orifice. The glans is left partially covered as it should be, and plenty of skin left to meet the varying condition of the organ. The cosmetic result is good.

NEWER REMEDIES.

LA GRIPPE AND ITS SEQUELAE AGAIN PREVALENT.—The following suggestions for the treatment of La Grippe will not be amiss at this time when there seems to be a prevalence of it and its allied complaints. The patient is usually seen when the fever is present, as the chill, which occasionally ushers in the disease, has generally passed away. First of all, the bowels should be opened freely by some saline draught. For the severe headache, pain and general soreness give an antikamnia tablet, with a little whiskey or wine, or if the pain is very severe, two tablets should be given. Repeat every two or three hours as required. Often a single dose is followed with almost complete relief. If, after the fever has subsided, the pain, muscular soreness and nervousness continue, the most desirable medicine to relieve these and to meet the indication for a tonic, are antikamnia and quinine tablets. One tablet three or four times a day, will usually answer every purpose until health is restored. Dr. C. A. Bryce, Editor of *"The Southern Clinic"* has found much benefit to result from antikamnia and salol tablets in the stages of pyrexia and muscular painfulness, and antikamnia and codeine tablets are suggested for the relief of all neuroses of the larynx, bronchial as well as the deep seated coughs, which are so often among the most prominent symptoms. In fact, for the troublesome coughs which so frequently follow or hang on after an attack of influenza, and as a winter remedy in the troublesome conditions of the respiratory tract, there is no better relief than one or two antikamnia codeine tablets slowly dissolved upon the tongue, swallowing the saliva.

ROYAL SANMETTO, A REMEDY THAT WILL LIVE, BECAUSE HONEST AND SQUARE.—I have been prescribing royal Sanmetto for suffering mortality for years. Indeed, ever since its entrance upon its high career and since it has vindicated its right to recogniton, and to be held and regarded as the unrivalled and peerless remedy for bladder aggravations. This formula has won the confidence of physicians everywhere, and the remedy, the gratitude of

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ORIGINAL ARTICLES.

THE DIVIDED FEE.*

By George M. McComb, M. D., Frankfort, N. Y.

Gentlemen, Members and Guests of the Herkimer County Medical Society:

Coming together upon the 99th anniversary of our existence ought to be an event of more than passing interest. One hundred years means much in the life of any country, any profession, any industry or calling. In medicine as in nothing else perhaps, we owe nearly all we possess or value to the achievements during the years embraced in the life of this Society. It seems to me therefore, to be entirely in keeping with this event, to indulge somewhat in retrospection—indeed one can hardly help looking backward if he keep in mind the debt we owe to those of bygone years who made possible the event we celebrate tonight.

We look over the long list of names—the *dead* of our ranks, who many times outnumber the living—and this list is a meaningless record; and yet it is true that the very warp and woof of our fabric were put together by these hands, once busy, long since folded and at rest; and the eyes once bright, looking into darkness or thro' the haze of twilight for the dawn of better days, were closed too early in perpetual sleep.

To be enrolled in the membership of a medical society nearing the century mark, along with such names as McNaughton, Beck, Willoughby and others famous in the annals of medicine, I count a great distinction, and to be one in that long line who have presided over the destinies of this time-honored institution from year to year is a distinction I surely do not merit. I appreciate keenly my inability to properly represent this grand old society which for ninety-nine years has withstood the assaults of charlatanism, ignorance and superstition, and wielded an influence which none can measure or compute and which only an eternity may reveal.

If one could have passed before his vision a panorama of the past hundred years what startling events would pass before him! What a wealth of buried treasure would be uncovered; what trials, what privations, what difficulties and discouragements, and what discoveries too, it would picture! What has one hundred years wrought in medicine? What has it brought to us? Surely more than I can tell. No stretch of the imagination can picture it. Fancy the disadvantages and discomforts of a medical practice in what is now Herkimer County in the year 1805,—what these early days were to those who had to travel the sparsely settled sections we can easily imagine. Twenty-five years before the first railroad in this country, thirty-nine years before the telegraph; nothing, absolutely nothing, to lighten work. Then think of the doctor's equipment,—his medicines the crude herbs and various compounds of uncertain quality. The stethoscope had not been discovered;—the clinical thermometer, the microscope, the hypodermic syringe, and the hundred other things that we would hardly

*Read before the Herkimer County, N. Y., Medical Society at the 99th anniversary, Tuesday evening, March 7th, 1905, being the President's address.

know how to practice without even for a day, they knew nothing of. The infamous "Thompson" began his "system" of practice in 1805, and his ignorance was no greater and his success as good as many of the "regulars," most of whom had no regular medical training. Those early days had the full quota of those who loved to be "humbugged," and Thompson's theories along with many other "shams" flourished, and we see still the imprint or "fossil remains" in various people with whom we come in contact.

Time will not permit me to go into the domain of improvement and discovery in medicine and surgery during the century. I wonder though, what our old members would say of the improvements, aids and discoveries which have come to us since they crossed the river Styx! What would they say of that ministering angel, which, soothing the suffering and pain of the knife, makes possible our modern surgery;—of the 20th century treatment of the insane instead of the chained or manacled wretches, dungeon-doomed through life;—of sight given to the blind, the curtains of the soul lifted; of our sanitary science and knowledge of bacteriology, saving countless lives and preventing the destructive epidemics that they knew about and vainly tried to check, a realization of their dreams perhaps; or the antiseptic and aseptic methods of surgical practice which have robbed the knife of its dangers and forever banished the old ideas in relation to the closed cavities of the body.

So much has come to us in a hundred years, we might almost be tempted to ask what has been left for us to solve or improve upon. However, we know better than to ask such a question. We cannot but feel that the future is to open great stores of knowledge; that with all our knowledge we are only at the portal of that great domain of preventive medicine and of curative antitoxins of which the diphtheria antitoxin is an example. Causes of diseases of which we still know little will have thrown upon them the light of exact knowledge, and no doubt but that many of the methods of surgeons now thought to be ideal will be relegated to the long list of discarded methods or theories.

There is a part of our medical life too, which has not kept pace with scientific attainments, and this is to meet with radical change. Gentlemen, the practice of medicine is not altogether a profession through which to obtain scientific results. It has a dual aim; it is equally a business from which those engaged in it and their dependent ones must live. Scientific medicine has ever been ready to ignore good business methods and all that hints of remuneration for services rendered,—it parallels the church, which proposes to give a free gospel to an unappreciative public. Zola's "Dr. Pascal" is not a myth in his business methods. Doctors everywhere have ignored as far as possible the money question, spending time and money in the interest of humanity, looking for the "elixir of life" to inject into some worthless degenerate, while loved ones are forgotten or neglected.

Why good business relations do not exist between medical men and the public, or between themselves, I cannot fully explain. I suppose it is partly due to inherited customs,—something handed down the century from a time when the needs and wants were of small account; partly to a pseudo-philanthropy which seems to attach itself to a physician's life, so that he feels compelled to be the dispenser of misguided charity on every side; and lastly because he has not been trained in medical economy—an unfilled chair as yet in medical schools. We are struggling there-

fore, in some ways, harder than the men who with saddle bags crossed the unbridged streams and boundless swamps of an uninhabited country. These are not the days to give out the impression that it makes no difference whether we enjoy an income or not. These are trying days to the rank and file of the profession, and to succeed is a problem. Free services to an unappreciative public,—to the poor that are rapidly increasing because of an inappropriate wage scale, to the dishonest, to the thousands of drunkards and their families; laboring under great cost of sufficient education and equipment, usually more than sufficient; with an overcrowded profession of competent workers and a large number of medicinal knaves, with strong commercial instinct, that constantly aim to bring down the honest worker; with hospitals, conveniently located, manned with surgeons of ability and with specialists, making inroads, cross-roads and belt roads in, through and around our business—these are the twentieth century troubles of the general practitioner, and there is an upstream pull about it that the established surgeon or specialist knows nothing of. It is not a question as to the "survival of the fittest"—it is a question rather of the survival of those who do not have some other means of support. It's the being caught in a transition state of the medical body, when the public have gone "daft" over surgery and specialism and matters are not adjusted to meet changed conditions, that makes it so uncertain to the general practitioner; so that my theme tonight is in the interest of the general practitioner and along the line of what I conceive to be improvement in business methods. It is one I announce with some fear of being misunderstood, and in the presence of surgeons and specialists may seem to be antagonistic to them, which is far from my purpose.

The subject of "the divided fee" is one that has been sufficiently discussed in journals or elsewhere so that most men know what I am talking about. I will define it further, however, by saying that it is the question being raised as to what share, if any, the family physician should have of the operative fees that go with *certain* surgical cases, which he passes on to the surgeon or surgical specialist, instead of an uncertain amount which he may or may not receive for a more or less recognized relation as attending physician; my claim being that it is entirely ethical to discuss this proposition, and as a business proposition very desirable. We have learned somewhat the value of organization and fraternalism. We have learned that it is of money value to be fraternal, that it costs us heavy to take a brother by the throat or stab him in the back, actually there are but few now who aim to "do others, and do them first."

In the subject I have chosen, the division of the fees, this division is simply fraternalism—brotherly interest—practically carried out, instead of "medical reciprocity," which would aim perhaps to reciprocate for favors granted by the family physician if the opportunity occurs. Of course we have a legal right to do surgery, but there is an unwritten law which says "Thou shalt not," unless conditions and surroundings are ideal and the hand that wields the knife is one guided by experience. Our general practice includes all, but that exact knowledge required forces a recognition of specialism as we have it, so that "general practice" and "private practice" are terms rapidly becoming obsolete. Private practice must include a constantly increasing number of hospital treated cases, from an in-

growing toe-nail to a laparotomy, and a so-called general practitioner must be content to divide each year more and more with men specially trained in the management of cases which he might reasonably expect to handle. Therefore questions of increasing importance on the one hand are, how can I get patients referred to me and the hospital I am connected with, and on the other hand, how can I hold this work at home which I know can be done much better in a hospital, and by some one with operative experience. Yet how can I afford to dispose of my cases in this way? This is a fair statement, and the answer to all the questions is in the division of the operation fees. Is it enough to be called a good fellow, or get one or two after calls as remuneration for the part the family physician has in the surgical management of his case? I think not, and I think it perfectly safe to say that most operating surgeons and specialists see in many cases the injustice of the situation, and would gladly aid in a readjustment of fees along these lines, but like ourselves, feel a delicacy in the matter hard to overcome without giving offense or appearing to be too commercial in their aims. A medical friend just a few days ago told me of receiving the check of a surgeon for $100; a present, yet a recognition of a favor in the reference to the surgeon of a patient from whom he had received a large fee. This well-meant courtesy I disapprove of however, for I believe that there ought to be a business relation so perfect that the check would not come as a surprise but simply as a business incident. There is a mutuality in the work—why not in the fees?

The great mass of physicians must continue to be in general practice and to be the feeders of hospitals and specialist's offices, and for this part of their work they must receive remuneration, and that is just the plan for the surgeon and specialist to promote that their own aims may succeed; we can call it what we wish,—it is co-operative work, and there should be co-partnership in profits.

Present customs make it a very hard proposition to get anything from a case that goes to the hospital. Time spent in consultation, at the operation, and after visits seem to the patient to be complimentary, and after all is it not so, to a great extent? At any rate, with no part in operative work and none in the after treatment, it seems to be a miserable feature of the work to attempt to make the patient believe that we are entitled to fees for *these* services, and it really amounts to a sort of hold-up process on our part if we insist. This problem of fees in operative cases is being solved however, by the general practitioner, as might be expected, and unfortunately without much regard to the best interests of all. I am able to state positively that one of the plans being carried out in larger cities is for the physician in charge to make his own diagnosis and arrange entirely for any operation, employing for an agreed fee surgeon or specialist, and conducting the entire after-treatment himself. I make no comment on this plan further than to say that it is entirely in keeping with my theme.

Another plan is to refer patients only to such surgeons or specialists as are willing and ready to divide such operation fees as are agree upon. I was told recently by an excellent physician of Buffalo that his plan was to know always beforehand what his share of the operation fees would be. This looks a little too commercial, does it not? But is it? If an operator receives $100 to $500 for an operation, why not return $25 to $100 to the man who made it possible for him to be thus favored. Surgeons and specialists who com-

mand our respect are those who have some special fitness or are favorably located for large observation, yet is it not equally true that they are not so much specialists or surgeons by the grace of God as by grace of their fellows?

Many times we are dependent upon the surgeon or specialist. Personally I rely largely upon their help, which has always been granted with promptness, regardless of fees or personal discomfort. For greatest success they are equally dependent. This makes the relation one of interdependence, and this ought to solve the problem, by an understanding as to fees, and it would work just as well for one as for the other.

To stem the tide, so to speak, of that tendency to go into special practice needs only the practical working of my theme. Men are not going into special work because they have some peculiar adaptation half so much as they are to make a living. With no revenue from scores of cases, the most important on their list, the general practitioner of today will become a specialist tomorrow, and the next day will knock at your door for recognition.

Is it any wonder that men begin to talk of a division of fees, the very least that can be given them for valuable co-operation in professional work? Is it any wonder that men feel the injustice of a situation that makes them free assistants instead of paid co-workers? And do you not think as I do that there could be a readjustment of fees covering such a large part of medical and surgical work and all be benefited by a straight, honest division of a single operation fee, and do away with that senseless compromise wherein operator and family physician try to impress upon an unwilling patient the importance of a service which he is expected to pay for, consisting of such items as consultations, attendance at operation, after calls, etc., when really the only true service rendered is that of bringing the case to the attention of a qualified operator, all other attention being unnecessary. As before stated, I am discussing this matter from the standpoint of the general practitioner, but I do not mean to take a one-sided view. I have said before that I believe that a sufficiently large, divided single fee best for operating surgeon or specialist, but it may be urged that the operator who, by hard work, acquired skill, favorable location, circumstance, and business ability, has after all no particular reason why he should divide his earnings with his less fortunate and less skillful colleague. That his work is essential to the welfare of the patients and the public generally; that the fees are none too large for such responsible work, and to increase the fee for the purpose of dividing it would most generally be extortionate; furthermore, a large number of the cases as now handled have a reciprocal value to the family doctor, in that he is strengthened by the tact and good will of the operator, etc. And again, the specialist is not responsible for conditions—they are the product of science and a demand of the times. He takes no unfair advantage, he operates at the request of the family doctor, without regard to fees, often relieving the latter of irksome responsibilities, and tiresome, tedious, loathsome cases — truly "an ever-present help in time of need;" all of which, generally speaking, is true, but it leaves the matter as one of medical reciprocity instead of true fraternalism.

Allow me to summarize the points I have tried to make:

1st. That the division of operation fees in certain surgical cases referred by the family physician is the proper course, being truly fraternal, ethical, and a good business arrangement.

2nd. That it is necessary for the family physician to receive a substantial part of the fees that go with operative cases, because of the rapidly increasing tendency to treat all important cases in hospitals, and the increased call upon the general or special surgeon; and as now customary the financial reward to the family physician is a myth.

3rd. That because of an interdependence the surgeon should not only coincide, but try to promote a division of fees, as best calculated to do away with unprofessional ways, and the growing practice of multiplying specialties and hospitals, alike injurious to surgeon and general practitioner.

4th. That this plan would also be in the interest of the patient in bringing quickly important cases to the notice of those best qualified to manage them, instead of their being held back, losing much valuable time in the various temporizing measures employed.

But I am not a pessimist. I do not believe that the general practitioner is going to allow his business to become so small that he will be compelled to raise squabs, Belgian hares, or Angora cats to help out. I believe that the medical pendulum is on the return swing, and that unless some arrangement is entered into as outlined, "specialism" must collapse by its own weight, and the all-around, family doctor will again be in favor, the most popular "specialist."

I have always been the champion of good business methods in our calling. While I would not be less humane, I favor some of the good work done being paid for by the public. Let the same business rules guide us as guide the profession of law as between us and the public. Let the public pay physician and surgeon to care for public hospitals. Let us work somewhat the business part of the profession in other ways too, and not allow quacks and unprincipled regulars a monopoly of good business principles. I plead too for better business relations between colleagues or co-workers, and to that end the laying aside of false modesty or superfluous ethics, which seem to me to hedge up the way somewhat, for I certainly do not wish to go back to the good old days of all around work—that time when one could "wade in" and monopolize everything in sight, from a carious tooth relieved by rusty turnkey to the so-called inflammation of the bowels relieved by death—when the dispensations of Providence were so frequent and visible in all manner of surgical cases.

No—ten thousand times *no*. Even with poor business methods and manifold schemes against the medical man always and everywhere present, notwithstanding all, these are the best days yet, and I have no doubt but that the Herkimer County Medical Society will enter the second century of its life, not in the weakness of age, ready for dissolution, but with strength and vigor of mature life; confident of its power, hopeful of the future, and determined to wrest from the great unknown its full share of achievement.

I will close by repeating a little parody on James Whitcomb Riley's poem "Romancin'":

I'v been a kind o' musin', as the feller says, and I'm
About o' the conclusion that ther haint no better time
When you come to cipher on it, than the time we ust
to know.
You git my idy, do you? *Little tads*, you understand,
Just wishin' and expectin' that you'd be a *man*.
Yet here I am this minit, even fifty to a day—
And forgettin' all that's in it, wishin' just the other
way.

Sometimes I set down and figger how it might be,
If the other fellers weren't so many, or so much
bigger than me,
Then I draw my plug of navy, and I *chew* and *chew*
and *set*
Just a thinkin', and a thinkin', tel my eyes are
wringin' wet.

Tho' I kin see the trouble o' the present, I kin see,
Kind o' like my sight was double, *all* the things that ust to be;
I kin see us true to nater—*them's* the time we started out
With our shingle, and our vials, and our runabout—
I kin see the business comin'—then our elbows in a jam,
And our college bills paid in—and a weddin' in the plan.

I kin see the bloomin' maiden—and the increasin' bill;
I kin see the babies,—and I kin hear them still.
Why I kin see the school boys, and I kin hear them shoutin' in the lane,
Why I git my fancy focused on the past so mortal plain,

I can *hear* the church bell, and the diphtheric's funeral chant,
I can smell *brimstone* and *carbolic*, that disease to combat;
I can *hear* the "cussin'" against the Homeopath,
I can see the "regulars" in their wrath,
I can see the typhilitis, the metritis, and necrosis; *when*
I say softly, which is better, *now* or then?

So I've kept on "musin'," as the feller says,
Tel I'm firm fixed in the conclusion that there ain't no better time,
When you come to cipher on it, than the present time, I declare!
And I wake up and say *gosh darn it*, just as soft as any prayer.

RINGWORM OF THE SCALP.

By W. E. Thomas, M. D., Brooklyn, N. Y.

Ringworm of the scalp, known also as tinea tonsurans, herpes tonsurans, tinea trichophytinae capitis, is unquestionably one of the most obstinate affections in all dermatology. It is essentially a disease of childhood, and its presence in an adult case would be a pathological condition continued from years before. A typical case of tinea tonsurans exhibits one or several more or less bald spots. The scalp is of a darker hue, dotted here and there with short "stumps" of hair, brittle and broken off by the ravages of the parasite. The fingers passed over the suspected spot detect the stumps. These stumps examined under the microscope are found filled with the parasite spores, and from the readiness with which they are brushed off, are a prolific source of infection.

Though it is comparatively easy to detect a case of ringworm of the scalp one must always have in mind the difficulty of diagnosing the chronic or disseminated forms. On close inspection the hairs, though devoid of the typical shorn appearance, will be more or less lacking in lustre; some scaling will be found with an occasional stump containing the fungus. Adler Smith of London has clearly shown that these cases may go on for years undetected. Among 1349 healthy boys, aged from 8 to 10 years, whom he examined for entrance to a school in London, and who were supposedly free from ringworm, he found the disease present in 8.3% of the whole number.

Prior to discharging a case as cured the whole scalp should be inspected with a hand lens in abundant sunlight. The hairs should be cut as short as possible; thus it becomes an easier task to detect the diseased bulbous stumps. To a somewhat unusual variety of ringworm has been applied the term tinea kerion. This consists essentially of a double infection with the trichophyton and pus cocci. Kerion of the scalp constitutes a well-defined lesion, elevated, boggy, and deep red in color, with a point of suppuration about each hair follicle. When the disease is at its height the stumps are readily and painlessly extracted. Long continuance of this inflammation tends to result in the destruction of the trichophyton, though the excessive inflammation may destroy the hair follicles and cause permanent alopecia. Again very rarely the patch will be

devoid of all inflammatory appearances and resemble very closely alopecia areata. This is known as bald tinea tonsurans. There may be several patches, smooth and shining, almost, if not entirely, devoid of hair stumps and scales, and surrounded with healthy hairs; but at the periphery it is usually possible to detect with the hand lens a few thickened and blackened stumps, which examined under the microscope will reveal the parasite. The hair about the patch is easily epilated and after prolonged washing in liquor potassi and glycerine in a warm place the fungus may be demonstrated. Hillick reported in a parish school of 1100 students 43 girls affected with bald ringworm, the source of the infection being one girl. The affection is communicated from one child to another by means of caps, brushes, towels, combs, etc. It may also be contracted from the lower animals, as the cat, dog (mange), horse or ox.

Tinea circinata in the adult may produce tinea capitis in the child and vice versa.

Much dispute as to the minor details in the pathology of the disease has arisen. Sabouraud of the Hospital St. Louis de Paris has elaborately studied the fungus. He contends that there are two distinct species of the trichophyton, one with large spores (megalosporon), and one with small spores (microsporon). These he claims differ materially in their life history and growth in media, and in their effects on the human skin and appendages. Gruby, who first discovered the fungus, made some of these distinctions in 1842 to 1844.

Sabouraud also insists that the trichophyton microsporon is the common fungus of ringworm of the scalp. This small spored fungus he identifies with the microsporon Audouini. The trichophyton megalosporon is essentially the parasite of ringworm of the beard and body. He further contends that there are several species of the megalosporon, one of which, common in the horse, gives rise to pustular lesions.

The views advanced by Sabouraud have excited much discussion pro and con, and further study of this important parasite is to be hoped for. The writer inclines to the belief that these various so-called species are but modifications of the same fungus, depending on the soil and nourishment. Leslie Roberts disputes the views of Sabouraud and bases their seeming differentiations upon their keratolytic power, and contends that the various so-called species are one and the same parasite.

This keratolytic action of the fungus explains in part its entrance into the hair. Formerly it was thought that the fungus entered the hair by way of the follicle before penetrating the shaft. It is now well known that the fungus is capable of entering the hair-shaft at any part. Usually within the shaft only the spores are to be distinguished. At times, however, mycelia may be demonstrated within the hair shaft, especially if the specimen be immersed for some hours in liquor pottassæ and glycerin.

Usually the diagnosis of ringworm of the scalp presents little difficulty. A safe rule is to suspect trichophytosis in very scaly conditions of the scalp in children, and to institute careful search for the fungus. The diseases that may be mistaken for ringworm are eczema, seborrhœa, pityriasis capitis, psoriasis, and perhaps a specific lesion. Bald trichophytosis simulates alopecia areata, and tinea kerion may be confounded with carbuncle.

Careful search of the scalp and the discovery of the stumps or the parasite will distinguish ringworm from a dry eczema, or seborrhœa, or pityriasis capitis. Psoriasis

seldom attacks the scalp alone, and the presence of eruptions elsewhere should establish the diagnosis. On the scalp the patches of psoriasis are more red and scaly; the hair is seldom lost and stumps are absent. The same may be said of syphilis.

The greatest difficulty is to diagnose between bald ringworm and alopecia areata. The history of the eruption which starts more like ordinary ringworm and not as a smooth surface, should excite suspicion. A careful search of the periphery of the spot will detect stumps, which should be examined microscopically; for alopecia areata may present short stubby hairs, atrophied and pointed, but lacking in the fungus. A little care will distinguish between the boggy, elevated lesion of tinea kerion and carbuncle, and also the history of kerion is that of tinea capitis.

In the treatment of ringworm two principles must be kept in mind. First, to bring some remedy in contact with the diseased portions which is inimical to the life of the parasite there, without being harmful to the scalp. Various substances are capable of destroying the fungus, naphthol, beta naphthol, epicarin, phenol, mercury, iodin, sulphur, etc. ad infinitum—and the problem is to cause these to penetrate the hair and epiderm both without and within the follicles. The second principle is the exclusion of the air, for the hyphomycetes are essentially aerobic. The hair should be cut short over the entire head and kept so. One is often surprised to find instead of a patch or two many areas attacked by the fungus.

The child's head should be covered with a skull-cap of some inexpensive material, which can be frequently removed. Infected children should be isolated from healthy ones as far as possible, and should certainly never use the same hats, combs, brushes, etc.

The spores and portions of the mycelium of the trichophyton are most minute in size, 1-1000 to 1-600 of a line (.0021 to .0033 m. m.) and when dried are readily transported from one part of the scalp to another; from one person to another and through the medium of the air. Hence the scalp should be kept moistened with oil (phenol 1 drachm, olei olivae 20 drachms) or glycerine (phenol 1 drachm, aquae rosae 5 drachms, glycerine 5 drachms). The indicated application should be rubbed in twice a day at least. Cases accompanied by much scaling are benefited by a daily shampoo with tincture of green soap.

Immediately after washing, the scalp should be dried with heated towels, which should be sterilized by boiling afterwards. Epilation is important, but is rather difficult to carry out for obvious reasons. Of late I have not insisted on it as urgently as formerly. The epilation when done should be extended at least ½ inch beyond the periphery of the patch. The extraction never causes permanent alopecia, whereas if neglected this may result from the disease. Usually epilation may be dispensed with if treatment be instituted early and followed up vigorously.

In patches of recent ringworm and in young children the following ointment has been found very efficient if applied thoroughly:

Acidi carbolic, .32 to 1.2 gm.
Epicarin, 3.10 gm.
Ung. aquae rosae q. s. ad. 31.10.

A single patch sometimes yields to the frequent application of tincture of iodine. The ancient application of a penny wet in vinegar, thus forming acetate of copper, very often succeeds through the attempts of the grandmother.

Cutler has recommended a combination of tincture of iodine, phenol, and chloral, equal parts, but it has not been employed very ex-

tensively. *Corter's paste* (iodine crystals, 2 drachms, oil piscis, 8 drachms) is an old English remedy, but seldom used now. The ointment of equal parts of ung. iodi and ung. hydragyri is efficient, but too harsh and irritating for general employment. The tarry oils, as oil of cade, are endorsed by some authorities. The oleates of copper and mercury are doubtlessly useful, but their action is difficult to control. Chrysarobin, highly recommended by Fox and others, is fairly useful, but it has the serious disadvantage of staining the scalp and also of lighting up an erysipelatous inflammation of the scalp that is most alarming to the patient, and if used in the frontal region may cause a marked edema of the eyelids.

The corrosive chloride of mercury and salicylic acid are the principal remedial agents employed in solution. The former though potent is too toxic for general employment. The latter has been used both in solution and in ointment.

Of all the multitudinous remedial agents used in combating the ravages of the trichophyton, a non-toxic naphthol derivative, epicarin, in ointment or alcoholic solution, seems most efficacious. The author uses an ointment 5 to 20 per cent., and finds that epilation may usually be dispensed with. A simple scraping of the surface of the infected area to remove the stumps, and thus open up the follicles and facilitate the ingress of the medicament, is usually all that is required.

In the very chronic cases even epicarin may seem to be inadequate and then the radical method of Adler Smith may be advisable. The treatment consists of carefully applying ol. tiglii to the patch, so as to transform it into an inflamed area, resembling tinea kerion. Less than an inch of the patch should be so treated, followed by the application of a flaxseed poultice. By the next day pustulation will ensue, which can be again repeatedly painted and poulticed for several days, until the surface becomes boggy, swollen and tender and each hair is loose in its follicle. The hairs are then easily removed. When carefully done this treatment results in the cure of the disease and the hairs again grow in a healthy condition, but sometimes permanent alopecia ensues.

In case of disseminated ringworm, where the hair has mainly grown again with only single scattered diseased stumps, it will often be extremely difficult to completely eradicate the disease. In these cases Smith has recommended searching out each stump, extracting and boring into the follicle by means of a wooden toothpick dipped in croton oil. It has been determined that croton oil is not inimical to the parasite, which can grow when immersed in it in the laboratory. The destruction of the trichophyton results from the pustular inflammation set up, the pus being inimical to the life of the fungus, so that in order to be effectual pustulation must result. The author has found epicarin made into a paste with a few drops of alcohol much more certain than ol. tiglii when applied to the follicle, using at the same time a 10% solution of the medicament in alcohol as a shampoo.

While paying so much attention to the local treatment the proper internal general dietetic and hygienic treatment should not be overlooked. As moss does not flourish on the bark of perfectly healthy trees with plenty of proper plant food and an abundance of air and sunshine, but rather on those suffering from lack of nutrition, so vegetable parasites, which are fungi or moulds, cannot long flourish upon individuals in perfect health. This has been repeatedly shown by failures

in attempts at artificial inoculation. Every element that conduces to the healthy life and vigor of the individual is to be considered, and the nutrition should be improved to the highest degree.

The prognosis of ringworm of the scalp varies greatly. While the disease is surely curable, it is extremely difficult in a given case to foretell the duration of the disease, as so much depends upon the case and the fidelity with which even the most systematic treatment is carried out. Very few cases, even those quite recent, are cured in a month. Three to six months may be said to be quite an average time, while at times even in the most skillful hands years of persistent treatment may be required. Adler Smith cites a case that resisted all treatment for nine years. The patient at the time of writing was 18 years of age and still had disseminated ringworm, while Crocher has reported the case of a woman of 20 years who had had the disease since 10 years old. The consensus of opinion is that trichophytosis of the scalp is most rebellious, and any remedial agent that seems more efficacious than the usual ones is to be welcomed. It is common experience to see cases regarded as cured and yet in which the parasite may be found by the microscope in abundance.

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GASTROPTOSIS AND ENTEROPTOSIS.

By J. M. Caldwell, M. D., Blacksburg, S. C.

As implied by the names, gastroptosis and enteroptosis mean a prolapsus of the stomach and intestines. My attention was first directed to the subjects by an article in the Philadelphia Medical Journal of Jan. 15, 1902, by Dr. J. Dutton Steele of Philadelphia and one by Dr. R. C. Coffey in same Journal of Oct. 11, 1902 and one by Dr. Byron Robison in same Journal of Nov. 30, 1901. The references are sufficient to direct any one wishing to look up what they have to say on the subjects. Displacements of the stomach and intestines occur more frequently than one not having studied them especially would think. Since reading the articles referred to above I have looked for and have found a number of cases. As to frequency I beg to quote from Dr. Steele's paper. In it he says in men showing gastroptosis 16%, in women showing gastroptosis 75%. My own experience is not abundant enough to allow me to say how frequently it is found. As to causes of displacements of the abdominal vicera, I believe the following to be the ones to which we can charge all displacements, viz.: Childbearing, lacing, rhinitis heredity, and last but not least, improperly prepared food. There being so many causes no class is exempt.

As to the first cause, childbearing: where women get up too soon after confinement and go about and attend their usual household duties they are almost sure to suffer more or less visceral ptosis and especially if they are predisposed to it by any of the other causes given above.

As to the second cause mentioned, one has only to remember that the corset makes pressure exactly where it ought not to and this forces the viscera downwards. In adjusting or fitting an abdominal supporter one would never have the pressure in the epigastric or umbilical regions. Tight lacing would act as an adjuvant to childbearing.

Rhinitis as will be hereinafter mentioned, is another frequent cause. One suffering from rhinitis swallows a quantity of effete or poisoned mucus which should be expectorated. Intestinal catarrh results and consequently an

abnormal weight upon the supports to the viscera and ptosis follows, not necessarily in all cases, but in some.

Heredity may cause anything and visceral ptosis just as well as anything else. Improperly prepared food I believe causes more cases of gastro and teteroptosis than anything else.

I have found ptosis when everything else but indigestion could be excluded and when I knew the cooking was not properly done and when there was no rhinitis or heredity or tight lacing. Improperly prepared food will almost surely cause indigestion and indigestion will cause all manner of intestinal troubles. Indigestion will usually be either putrefactive or fermentative. If putrefactive there will not be much swelling of the abdomen but the breath will be bad, color will be bad and there will be either diarrhœa or constipation and in either case the evacuations from the bowels will be very foul smelling and as I have found in a number of cases quantities of shreds of mucus will be passed by the bowels.

The cases to which one is called to see will usually complain of a dull or water logged feeling, pain on left side at crest of ilium, constipation or diarrhœa and a strong disposition to sit down or lie down, loss of appetite, bad taste in the mouth and generally a coated tongue.

The description of the following cases is, practically, that of all the cases one will see:

Case 1. Mrs. H. age 44, born in Georgia. Has lived in various places, being the wife of a master mechanic in railroad shops. Never had any children. Whether her sterility is her fault or that of her husband I do not know. She never had even an abortion. Is of a very nervous irritable temperament. Is constantly taking medicine, exercises no judgment in diet but blindly follows her appetite, consequently she suffers from severe attacks of indigestion. Examination of her throat and nose did not reveal any catarrh. She has pain on left side both in iliac region and at crest of ilium. The pain in iliac region was so severe and so constant that a physician who saw and treated her before me told her that it would be necessary to remove the left ovary. Is constipated all the time and develops immense quantities of gas after eating. Nearly everything she eats causes fermentation.

I inflated her stomach with a seidlitz powder and could make out the outlines of it in the umbilical region instead of the epigastric. The intestines were also prolapsed. I could exclude any hepatic, trouble or renal or splenic complications. She had no history of malaria. She was very anemic. I put her on arsenic and iron peptonate and manganese as a tonic and a capsule of thymol, capsicum, and assafoetida whenever she had the gas and had her drink lime water in all her water and milk. Her eructations of gas would turn blue litmus red. Ordered her to wear an abdominal supporter which pressed from the hypogastric region upwards and no pressure at all above the umbilicus. I had her drink large quantities of warm water which often caused her to vomit and when she did vomit relief from the gas came quickly. I had her use high saline enemas night and morning with very gratifying results. She is at present keeping house and doing most of her own work. At the time I first saw her and for two months subsequently she was boarding at a hotel and I have no doubt that the cooking at the hotel aggravated her trouble.

Case 2. Mrs. J. M. age 43, mother of 6 children, family history only fair. Her ancestors were all long lived but all were more

or less sickly. She is only fairly intelligent. Nativity and residence S. C. Is a farmer's wife and has always done her own work which included attending to the cows and most of the family washing. Never had any intelligent medical attendant at any of her confinements. Never lay abed longer than one week at parturition and never was bandaged after delivery. She has a great deal of energy and has done a great deal of work. Her husband being a bad manager she had to do most of the thinking and working for the family in order to make tongue and buckle meet, and that, with rapid childbearing and lack of proper attention at proper time, caused most of her bad health.

I saw her first about Feb. 15, 1903, at which time and for three months previous she had been confined to bed. She had night sweats, a very troublesome post nasal catarrh, pain on left side at crest of ilium, constipation, a very poor appetite, a worse digestion, and a general depression of spirits. I treated her on the same plan as in case 1 except as to the abdominal supporter with good results.

I found in her case a very much prolapsed stomach as well as intestines. All had prolapsed into the pelvis. The upper curvature of stomach was at umbilical region. In her case I had her use a 30-inch colon tube for the saline enemas and every third night I had her use instead of the saline enema, 4 oz. of olive oil and 20 drops of oil of peppermint which she retained over night. She passed immense quantities of mucus shreds some of which were casts of the colon. She has improved very much and is now able to visit about among her friends. I wish to add that I believe rhinitis played a considerable part in causing her gastro-enteroptosis. I could give detailed descriptions of a number of cases of gastroptosis enteroptosis but the symptoms in those above mentioned are the symptoms of all practically.

I will add that when I am called to see a patient over 25 years old who has borne children and who complains of a dull, heavy waterlogged feeling and difficult locomotion, constipation, sweats, headache, bad digestion, coated tongue, and bad taste, I make examination for hepatic, renal or uterine trouble. If I find that I can exclude those troubles I then look for a gastro or an enteroptosis and if my patient is over 25 years old and has children I am almost sure to find a visceral ptosis. Having found the ptosis the next step is the best treatment. I consider the saline enemas of greatest importance, next come laxatives, not purgatives, and that which has given the most satisfactory results is comp. licorice powder, next come tonics and they will have to be prescribed for each individual case and last comes the abdominal supporter which I consider a very important part of treatment. The mere mention of it will suggest to reader what will be needed in a supporter. I would not like to say that the above plan of treatment will cure any case for I believe that where the natural supports to the viscera are weakened and elongated that some surgical measures hold out more hope for a radical cure than anything else.

Dr. R. C. Coffey of Portland, Oregon, in his article in the Philadelphia Medical Journal of Oct. 11, 1902, has in my opinion, given a plan which will come nearer effecting a radical cure than any other and I strongly recommend what he has to say to anyone wishing to investigate the subject.

In facial erysipelas never fail to thoroughly examine the nose for the presence of purulent follicles or small accumulations of pus under crusts. The extension of the process is often due to neglect to do so.—*Int. Jour. of Surgery.*

A NEW APPLIANCE IN GENITO-URINARY WORK.*

By W. W. Townsend, M. D., Rutland, Vt.

The following quotation from an article which appeared in the *Medical Record* from the pen of Dr. H. M. Christian, suggested to me the practicability of the device, illustrated below:

"As a result of extensive experience in the treatment of gonorrhea, genito-urinary surgeons have been led to the conclusion that the ideal remedy for local use in this disease should be one whose destructive action upon the gonococcus would not be limited to the mucous membrane of the urethra only, but would possess at the same time penetrating power sufficient to attack the micro-organism in the submucous tissue."

The urethral compressors are made of rubber, and are designed, first, for the purpose of retaining a remedy in the urethra for a sufficient length of time that it may have its destructive action upon the gonococci; and, second, that it may have sufficient time to penetrate to the submucosa and attack the micro-organisms that find lodgment therein.

Solutions that are destructive to the gonococci act better when retained in the urethra for a longer or shorter time, according to the bactericidal properties of the drugs used.

Patients when given a solution for self-use will not retain it for ten to twenty minutes; nor is it practical in office or dispensary treatments to have them standing around squeezing their meati for that length of time.

With the urethral compressor solutions may be retained for an hour or more, with no inconvenience, the construction being such as to produce even pressure and no constriction of the glans; thus edema is obviated.

The pressure made at the frenum is not so great as to prevent the injection, but is enough to bring the walls of the urethra together,

keep them so, and prevent the leakage of fluid injected. Great care must be used in not over-distending the canal, as this stimulates the accelerators to action, overcomes the pressure, allowing the escape of a part of the injected fluid.

Following the preliminary urination and cleansing of the meatus, the large bar, No. 1, is slipped over the glans penis into the coronal sulcus; the smaller bar, No. 2, is then drawn forward so as to make its pressure at the frenum. The injection is then made in the usual manner. A pledget of cotton is placed over the meatus, and the patient instructed to remove the compressor later.

With the urethral compressor described, and the ordinary bactericidal solution, I have been able to clear up both macroscopically and microscopically the diseased anterior urethræ of my acute and chronic gonorrhoics in less time and more satisfactorily than with any other method I have ever tried.

For those who may consider the compressor "too harsh," perhaps it would be well for me to state, that it is my custom not to begin injections until after the subsidence of the acute inflammatory condition.

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The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.* FRANK C. LEWIS, M. D., *Business Manager.*

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Burlington, Vt., August 25, 1905.

EDITORIAL.

THE PATENT MEDICINE EVIL.

Our readers have doubtless noticed several editorials in recent issues of the Journal in which the attempt has been made to show that there is a vast difference between honest and dishonest proprietary medicines. To quote from one of these editorials.

"In regard to dishonest proprietaries no argument or condemnation is necessary. They are not what they claim to be, they betray the trust they falsely create, and they are evils that should be fought. Experience is often necessary to discover them, but when discovered they should be given a wide berth.

In conclusion we have only this short word to say, honest proprietaries fill an important place in the modern treatment of disease. If they are honest and worthy, their measure is in results, and honest results count for the most in the practice of medicine today.

If not, what does?"

It is a blot on modern civilization that there are men so depraved morally and so devoid of the fundamental instincts of decency that they can seek to enrich themselves by the marketing of not only spurious remedies, but those actually dangerous and harmful. These acts are all the more reprehensible when it is considered that they depend on the needs of distressed and suffering people for their field.

A recent case in point is the bare-faced attempt by "Dr." Hartman of Peruna fame to further the sale of his alcoholic beverage by the preposterous claim that its use would cure and above all prevent yellow fever! ! A claim so ridiculous would hardly be worth noticing if it was not for the fact that a great many people are unable to discern its falsity and are liable to seek a false security by using his product. A man who can thus trade on the fears and credulity of an afflicted people in such a way gives the Devil himself a higher degree of respectability, and fills an honest God fearing person with disgust at the fearful depths to which the lust of money carries some men.

Attempts of this kind should stir the public to earnest efforts for the suppression of dishonest medicines. Dishonesty whether it is called stealing, lying, graft or by any other name is the particular menace of the day, and nowhere is it more evident than in regard to the "patent medicine evil" so called. Medical men who are inclined to take a superficial view of the question make a serious mistake when they include all proprietary remedies in the class with dishonest patent medicines. The sooner the medical man realizes that there is a vast difference between the honest pharmaceutical product depending on its value and efficiency for success, and the spurious remedy which trades on the frailties, appetites and ignorance of suffering people, the sooner the real evil will be intelligently attacked and wiped off the face of the earth.

EDITORIAL NOTES AND CLIPPINGS.

Osteophonic Percussion.—In the modern management of fractures there is no longer any question as to the value of the x-ray in diagnosis as well as in determining whether a proper reduction has been made and the fragments are held in good apposition by the dressings. Nothing is more unfavorable to the attainment of good results than the interposition of portions of muscle and fascia between the fragments, and this is not always clearly shown by the fluoroscope and in skiagraphs.

It is therefore of interest to note that Professor R. H. M. Dawbarn, of New York, has employed with great success in his wards in the City Hospital a method which he terms osteophonic percussion, and which can be easily used by the general practitioner. The principle upon which this is based is graphically explained by him as follows: If a log is sawed in two, and the ends firmly adjusted, any one listening at one end while some one taps the other, will not perceive any difference in the sound from that heard if the log be whole. If, however, some soft substance be placed between the two pieces of log, and one end be tapped, a listener at the other will then note a distinct change in the sound conduction. In the same way in a case of fractured bone, if the fragments are not in close apposition, if there be overriding or interposition of a piece of muscle or fascia, the modification in sound heard through the stethoscope placed at the seat of the fracture will at once show that the fragments are not coaptated, and will impress the necessity of adopting means for securing them in proper position in order to obtain good union.

It is well, therefore, to bear in mind this method of osteophonic percussion as a very practical auxiliary in the diagnosis, the more so as its usefulness is not impaired by the presence of swelling at the site of the fracture.—*Int. Jour. of Surgery.*

MEDICAL ABSTRACTS.

Fruits and Digestion.—Dr. J. G. Sharp, in the *Lancet,* calls attention to the very considerable digestive action of the juices of such common fruit as apples, pears, cherries, strawberries, etc. He states that the fruit acids combine with the iron in proteid foods and enable the blood to take it up. Hence, meat and fruit are the proper diet for anemia. The ferments contained in many common fruits, as well as in the pineapple, give them considerable digestive power of a nature similar to that possessed by the pancreatic juice. To obtain the best therapeutic results from fruit, Dr. Sharp recommends that it be eaten at the end of the chief meal. All tinned fruits are lacking in the digestive power, since the higher temperature preceding the canning kills the ferments.

Dr. Sharp is a skilful and prosperous physician, and has made diet a special study of foods. He is an authority on questions relating to food and drink.—*Med. Summary.*

Adenoid Cases.—According to Grazzi, seems to differ widely in different countries. With him it was 6 per cent. of his patients with ear, nose or throat trouble. Heredity (markedly), unhygienic surroundings, tuberculosis, rickets, hereditary syphilis, zymotic diseases, degenerative processes in the nervous system, disturbances in the thyroid, he gives as causes, and thinks that dampness of itself does not play an important part. Skeletal alterations in the upper jaw are often a secondary result.

Earache, deafness, otorrhœa, may be due to adenoids, and the internal ear may be affected by way of the blood-vessels or the lymphatics. Grazzi prefers, for removal, cocain locally (10 to 20 per cent.), or general anæsthesia by ethyl bromide.

The post-operative treatment is keeping to the house and closing the nostrils with sterile gauze. The operation is contra-indicated by hæmophylia, and marked dyscrasia, tuberculosis or epidemic disease.—*Brit. Med. Jour.*

Veratrum Viride.—Green veratrum or American hellebore allays overactivity of the heart and reduces tension of the pulse. It must be used in moderate doses, as large quantities cause nausea and vomiting, accompanied by decided muscular relaxation or even collapse. It is contraindicated in typhoid fever except where there is excessively high temperature and violent delirium. In the beginning stage of pneumonia however, it answers an excellent purpose. Doses of 10 to 15 minims of the tincture of veratrum viride every two hours reduce inflammatory congestion, temperature, and the pulse-rate. After consolidation has taken place the remedy is of no avail. Veratrum viride has also been used in acute inflammatory rheumatism as an agent to allay fever.—*Shoemaker in Med. Bulletin.*

Some Reasons for not Sending a Tuberculous Patient a Long Distance from Home.—The separation from friends is a serious depressant.

The expense of travel exhausts an already well-depleted purse.

It is impossible to expect to receive occupation, support or sympathy. Too many have already preceded him.

The expense of living, especially in the south and west, is greater. A patient should be prepared to support himself for at least six months.

In Denver, children, dogs and consumptives are classed together as undesirable tenants.

In California, legislation to exclude consumptives is proposed.

Sanatoria for such cases are all over-crowded, and to gain admittance is almost impossible.

There is no specific in climate. The single claim for climate has been reduced to that place where it is possible to obtain the greatest number of hours in the open air.

In all sanatorial for tuberculosis both in Europe and America, it has been found to be entirely practicable to keep patients in the open air not less than twenty-four hours out of twenty-four.

It will be easier for the patient to impress upon his relatives and friends the necessity of having the sleeping-room windows open at night when he returns from the sanatorium, if the institution is located near home where they are able to see the demonstration of the conditions.

For the public in general the chronic consumptive endangers many more persons by careless habits while traveling than if he remains at home.—*Medical Mirror.*

The Most Satisfactory Method of Treating Hay Fever.—It is now regarded as a pretty well established fact that hay fever is a neurosis with the peculiar local manifestation of hypersensitiveness of the respiratory mucous membrane. Excessively humid air, dust, the pollen of certain plants, attenuated particles of matter, and certain volatile emana-

tions cause a pronounced irritation of the mucous membrane. This is indicated by violent fits of sneezing; copious discharge of mucus; sensation of burning in the pharynx and post nasal vault and sometimes in the region of the forehead, the eyes, and the cheeks; more or less headache and difficulty of breathing, due to nasal stenosis produced by turgescence of the mucous membrane; and in not a few cases, cough and bronchial asthma. These phenomena are undoubtedly the direct result of the vasor motor paralysis that follows the primary irritation. They are caused by an engorgement of the tissues resulting from excessive dilatation of the capillaries. So much for the etiology and pathology of the distressing condition that annually incapacitates thousands of the most valued citizens of the country every year, and for which no method of treatment heretofore has proved more than palliative.

With the discovery of the remarkable therapeutic properties of the suprarenal gland and the isolation of its active principle, Adrenalin, a new day dawned for the hay-fever patient. As our experience with Adrenalin increases we are more than ever convinced of its efficacy. Its very satisfactory and exceedingly prompt action in controlling the paroxysm is simply charming to physician and patient. It affords the sufferer the grateful relief from physical torment and mental anguish that he once learned to expect from cocaine; but the dangers and inconveniences of cocaine are entirely wanting after the use of Adrenalin. The latter powerfully contracts the capillaries, reduces the turbinal turgescence, thus relieving nasal stenosis, and checks the profuse flow of mucus. It also overcomes the sense of mental and physical depression that is so common in many chronic cases.

Adrenalin is used either in the form of the 1-1000 solution or the more recent Adrenalin Inhalant. The latter is a permanent oily solution also of 1-1000 strength. Either solution may be sprayed into the nares and pharynx, during deep inspiration when it is desired to reach the lower air passages, or the nasal tissues may be treated by means of topical applications on cotton mops. It is unnecessary to use cocaine, as the Adrenalin solutions are not at all or very slightly irritating. Adrenalin is kept in the leading pharmacies of the country and the physician should have no difficulty in procuring it at any time. Messrs. Parke, Davis & Co., who market the Adrenalin preparations, have publised a brochure on the treatment of hay fever that should be in the hands of every medical practitioner. It can be obtained by application to the Detroit office, or any of the branch houses.

THE LIMATAIONS OF THE VAULE OF NITROGLYCERIN AS A THERAPUTIC AGENT.

Dr. H. P. Loomis calls attention to the brilliant results with this drug in angina pectoris. It has come into general use as a vaso-dilator, and one which is claimed to lower blood-pressure. The ordinary dose of 1-100 of a grain is too small; at least 1-50 of a grain must be employed. Because it is useful in vaso-spasm it cannot be argued that it is of value in diseases attended by arteriosclerosis. In dogs it is not found to lower blood-pressure unless administered in doses which would correspond to from one-third to one grain in a man weighing 150 pounds. The heart's action is very much weakened by these full doses. These physiological observations correspond with the clinical fact that in chronic Bright's

disease nitroglycerin does not increase the daily amount of urine. Chloral hydrate the writer has found always useful in relaxing blood-pressure in arteriosclerosis. It should be given in five-grain doses every four hours night and day. The sphygmomanometer generally shows under this treatment a marked fall of pressure in twenty-four hours, and the distressing headache is controlled. — *Med. Record.*

NEWER REMEDIES.

THE BOWELS IN PREGNANCY.—Constipation should be prevented by the use of fruit, coarse bread and exercise. Prunes stewed with a few senna leaves are of value. A cup of hot water before meals tends to regulate the bowels. If necessary, a cathartic should be used night and morning. Some preparation of cascara is generally to be preferred. The following prescription is popular:

R Fld. ext. cascara sagrada,
Fld. ext. cascara sagrada aromat, (P. D. Co.'s),
Glycerin,
Elix. pepsin. (Fairchild's) one-half ounce of each.

M. Sig. one drachm night and morning, if needed for bowels. During the last three weeks it is well to move the bowels thoroughly once a week by giving a teaspoonful of Rochelle salts or Abbott's saline laxative every two hours, until the bowels move twice.—*Med. Summary.*

REPORT ON PEACOCK'S BROMIDES.—We have purchased, in London, a bottle of Peacock's Bromides (Syr. Brom. Comp. Peacock) and subjected it to analysis.

We found the preparation to consist of neutral solution of the mixed bromides of potassium, sodium, calcium, ammonium and lithium.

The amount of bromide present was found to be equivalent to 14.989 bromides in the fluid drachm, thus proving the exactness of the medication in the product.

The salts employed for the solution were particularly free from iodides and bromates, which, of course, is the important factor.

H. HELBING,
F. W. PASSMORE.

London, Eng.

DYSMENORRHEA. — Whether neuralgic, membranous, congestive, inflammatory, obstructive or ovarian in character, responds readily to the pain-relieving and flow-augmenting influences of this product. Ergoapiol (Smith) causes the menstrual flow to occur without discomfort and brings the volume and duration to normal limits.

"Every physician understands only too well the treacherous and baffling nature of rheumatism, neuralgia, gout and kindred ailments, no matter where located, and how difficult it is to treat them successfully. Hence it is on account of its extraordinary intrinsic merits that after 25 years of constant use by thousands of physicians Tongaline is still recognized as the most reliable remedy in the treatment of rheumatism, neuralgia, grippe, gout, headaches, sciatica, lumbago, etc.

Tongaline by its therapeutic action neutralizes the poisonous secretions which cause the diseases above mentioned and expels these poisons promptly and thoroughly.

The ingredients of Tongaline have been so happily chosen and the quantities so skilfully

adjusted and compounded that no remedy in the history of the world has been as successful for those particular ailments in which it is indicated."

N. B. Shade, M. D., late editor of the *North American Medical Review,* Washington, D. C., says in the *Medical Examiner and Practitioner:* "Papine is derived from the concrete juice of the unripe capsules of Papaver somniferum, U. S. Pharmacopœia. Physicians who have tested the virtue of papine in their practice have given evidence that it contains all the medicinal value of opium, with all its bad qualities eliminated. Papine has none of the bad after effects of opium, morphia, laudanum, paregoric, etc. I positively declare and insist that the physician who once gives papine a trial cannot be persuaded to deprive his patients of the great benefit of this agency to relieve pain, an implement of precision, which is perfectly harmless to the patient.

Hemorrhage from the Bladder.—Dr. Chas. D. Camp, Chicago, reports the following case of hemorrhage from the bladder which he considers to have been of tuberculous origin.

J. K.—Age 45, called April 20th stating that he had had a hemorrhage from the bladder and had been under treatment by a prominent physician of this city—a specialist in genito-urinary disease—he was pale, exsanguinated and weak from loss of blood, with a hard, painful lump in right groin; very tender on pressure. By use of catheter, drew off urine, which was about four ounces, and about one-half was blood, with some coagulated shreds following. With hypodermic needle, injected in the lump, which was three inches in length, in three places with five minims of cresylone. This gave him great relief. I washed out the bladder with alum solution, and told him to report next day, which he did. The hemorrhage was the same, but the soreness was gone. I then washed out the bladder with solution of lead and alum (Bilroth's solution) and had him report again the next day; the hemorrhage had been the same. Then I washed out the bladder wtih Eusoma, one part to three parts of water, and had him report the next day, when to my surprise he stated that there had been only a trace of blood, which he said had not shown until four hours before. I then provided him with a soft catheter and had him use the Eusoma twice a day, morning and evening, with the result that the blood entirely disappeared and has not shown a trace but once, which was about a week ago, when he had failed to use the eusoma as directed. While using the eusoma as a wash, I have given him an antiseptic tonic by the mouth. His appetite has much improved, his color is nearly normal, he has gained three pounds in weight and feels much better. He is following his vocation as a barber and bids fair to make a full recovery. Before coming to me he had been examined with the cystoscope and microscopically, and case pronounced a papilliform carcinoma. I found a slight stricture of the urethra, which does not prevent using the catheter, and for which I have not given any treatment, wishing to make sure of the vesicle hemorrhage first. From the progress made so far, and the great improvement made in general health, I think the promise of complete recovery is good.—*The Medical Herald,* July, 1905.

A good remedy for relaxation of the womb and its appendages is Aletris Cordial Rio; it strengthens the uterine organs, and at the same time corrects the co-existing general weakness.

Sanmetto in Prostatitis, Cystitis, Gonorrhea and Urinary Irritations. — I have been an extensive prescriber of Sanmetto in cases of prostatitis, cystitis, gonorrhea and general urinary irritations, and look upon it as one of the surest remedies in that class of troubles I have ever seen. I shall continue its use where indicated.—A. R. Moist, M. D., Dayton, Ohio.

Relief in Neuralgia and Girdle Pains. —The efficiency of antikamnia tablets in neuralgia is beyond dispute and is well illustrated by the following case: An old nurse who had suffered from severe neuralgia at intervals for many years and whose hair had become gray on one side of her head from this cause, expressed herself as having gained more relief from antikamnia tablets than from all of the many medicines which had been prescribed for her. For pain about the head from almost any cause, antikamnia tablets always have undoubted preference over all other coal-tar preparations. They are a useful adjuvant in the treatment of migraine, and the headaches of school children promptly yield to moderate doses.

In cases of organic spinal disease they proved of considerable value. A woman of 52, with transverse myelitis (complete paraplegia) found them reliable for controlling the very annoying girdle pain. Two or three doses of one tablet each, within twenty-four hours, were sufficient to make the pain endurable. In another case, where there was the girdle sensation connected with its earlier history, and numbness and paræsthesia of the lower extremities existed, one antikamnia tablet was given three times a day along with a regular potassium iodide treatment. The observation of this case has extended over 18 months and at no time has the progress been so satisfactory as during the last six weeks, in which she has taken antikamnia tablets regularly.

Cystitis.—The treatment of cystitis should be direct and indirect; whether it be due to gonorrhea, obstruction, or any other cause, the management is essentially the same. Here, rest is of the first importance; such a condition of quiet is, at times, necessary that on the surface of the urine in the bladder there is not a wave or ripple.

The hips should be raised and the urine kept from the bladder neck; the general health should be cared for, and the use of such demulcent diuretics as will flush out the bladder with minimum discomfort. For the accomplishment of this purpose, the following is of service when the urine is alkaline and much decomposed:

Rx. Cystogen tablets, aa, 5 gr. No. XXV.

Sig.—One in a glass of water after each meal.

Modern Therapeutics and Pharmacy.—*By Frederick Hadra, M. D., of San Antonio, Texas.*

In speaking of ethical proprietaries, he says: "I should be sorry, indeed, if the prejudices of any member of this society should so far overcome his better judgment as to banish all or most of these drugs from

his practice without investigating their merits. So, if we desire a local antiphlogistic effect, and have to choose between the ancient, unsightly, unhygienic and troublesome flax-seed poultice and the newer proprietary article called Antiphlogistine, a physician must needs be prejudiced, indeed, who will prefer the former. . . . It may be a matter of theoretical indifference what preparation we prescribe, but it may be quite a different matter with the patient who has to use it for long periods." . . .

"Does it not strike you as somewhat incongruous that we alone of all professions and trades should rise up in arms against a coordinate branch which is continually striving to assist us in improving our therapeutic weapons? If we would take advantage of the opportunity offered to make intelligent selection of such preparations of drugs of reliable concerns as appeal to reason and common sense, those of us who do so will certainly have an advantage over those who do not."

As regards the refilling by the druggists of prescriptions of proprietary remedies, he says: "If I am called to treat a sprain of the ankle, and find it necessary to order an antiphlogistic application, it would be just as easy for the patient to send to his druggist daily for more flaxseed meal or iodine, as it would be for him to order more cans of the more cleanly proprietary preparation, Antiphlogistine. A tonic or cough medicine, quinine mixture or capsule would share the same fate whether proprietary or extemporaneous."

"If the intelligent use of the drugs mentioned is not injurious *per se,* why should we protect the laity against their use any more than against the employment of any other drugs? Would the committee advocate the abandonment of calomel, castor oil, mag. sulph., quinine, flax-seed meal, paregoric, laudanum or carbolic acid because the laity can also go to the drug store and purchase these just as they can Cascara preparations, Phenacetin, Listerine, Antiphlogistine, etc.?" —Extracts from an article in the *Texas Medical Journal* for March, 1905.

THE ANTISEPTIC TREATMENT OF THE SUMMER DIARRHEAS OF INFANTS.—Of the various agents that have been suggested for the disinfection of the intestinal tract. Acetozone is by far the most promising. It has been shown by Novy and Freer, of the University of Michigan, that Acetozone, even in weak solutions, destroys bacillus pyocyaneus, bacillus coli, bacillus typhosus, bacillus diphtheriae, vibrio cholerae, staphylococcus pyogenes aureus, and streptococcus pyogenes in less than one minute. These writers say that "While the strong solution kills everything almost instantly, the weaker solution (1:3000) destroys the vegetating germs, as a rule, within one minute." At the same time solutions of 1 to 1,000 strength are given internally without the least harmful effect. The good results accruing from the use of this remedy in the summer complaint of young children are early and unmistakable: the discoloration and putridity of the stools disappear; the diarrhea is checked; the temperature falls, pain and inflammation subside; the vomiting is controlled; and the condition of anguish and irritability is consequently greatly dispelled.

In dealing with this class of cases the following make up the round of treatment: (a) withdrawal of milk and the substitution of thin broths, albumen and cereal waters, or other liquid feedings; (b) immediate evacuation of the stomach and intestines by stomach-washing and intestinal flushing with Acetozone solution (1:5000 or stronger); (c) the

sustaining of the patient's vitality; (d) administration of an internal antiseptic—Acetozone (1:3000 to 1:1000); (e) the observance of hygienic conditions. In giving the drug, the solution usually administered to adults (15 grains to the quart) should be diluted with one-half its quantity of water and flavored with lemon or orange juice. It should be given in teaspoonful doses at frequent intervals—every twenty or thirty minutes in the beginning, lengthening the intervals as the case progresses.

Colonic irrigation is a useful procedure in cholera infantum. Acetozone (1:5000) solution is unexcelled for this purpose. The same solution may be used for lavage, which is recommended by many leading authorities. In washing out the stomach the irrigating fluid invariably should be luke warm and is best introduced prior to the feedings. Its continuance must be based on the character of the washings.

Acetozone is marketed in ounce, half-ounce, and quarter-ounce vials, and in boxes containing six vials of 15 grains each. An ounce is sufficient to make eight gallons of aqueous solution.

Persons suffering from hemorrhoids should resort to laxatives which will produce mushy stools and not to those which give rise to watery passages, since the latter frequently increase the existing irritation and predispose to hemorrhages.—*Int. Jour. of Surger.*

In acute gonorrhea a slight discharge sometimes persists which is not due to the extension of the process to the posterior urethra, but to its localization in some of the mucous follicles of the anterior part of the canal. In these cases the introduction of short, straight steel sounds of large caliber or Kollmann's dilator will express the accumulated secretion and, in connection with antiseptic injections, bring about a cure. —*Int. Jour. of Surgery.*

Urethritis in elderly women arises not infrequently from a sagging down of the lower wall of the urethra, associated with narrowing of the meatus. A sort of pouch results in which urine stagnates, undergoes decomposition, and then produces irritation and inflammation. To effect a cure it is necessary to excise the prolopsed urethral wall, except the mucous membrane, and to dilate the meatus. Pryor refers to this condition as urethrocele.—*Int. Jour. of Surgery.*

An accumulation of blood under the finger nails as the result of contusion is of common occurrence and frequently gives rise to intense pain. If the patient objects to cutting, the blood can be easily evacuated in the following manner: A drop of liquor potassæ is placed over the site of the effusion, the remainder of the finger being protected from its effects by oiling. That part of the nail to which it is applied gradually softens and can be gently scraped away until a small opening is made and the blood allowed to escape.—*Int. Jour. of Surgery.*

In cases of rheumatism of obscure origin it is always of importance to inquire whether the patient is affected with or has previously suffered from gonorrhea. Even if no visible discharge be present, examination of the urine for clap-threads will occasionally reveal the presence of gonococci, which are in direct causal relation to the rheumatic affection.—*Int. Jour. of Surgery.*

BOOK REVIEWS.

THE SURGICAL ASSISTANT, A Manual for Students, Practitioners, Hospital Internes and Nurses. By Walter M. Brickner, B. S., M. D., Assistant Surgeon, Mt. Sinai Hospital, Out-Patient Department, etc. 360 pages. 123 original illustrations and 116 illustrations of surgical instruments. New York: The International Journal of Surgery Co., 1905. Price $2.00 net.

This splendid manual is one of the really important books of the year, in as much as it fills a place in medical literature that has hitherto been unfilled. It certainly meets a wide spread demand in a highly acceptable manner, and it is sure to attain immediate and lasting popularity.

The book is not too large for the doctor's overcoat pocket, nor the nurse's satchel, yet it covers the entire subject. The first two chapters deal, respectively, with *the general conduct of the assistant* and *the hospital interne* and contain much practical sense and sound advice for young men to take to heart. Chapter three treats of *assistance in examinations and dressings,* fracture reductions, the manipulation of plaster-of-Paris, etc. Chapter four gives in great detail an illustrated, systematic scheme for *the preparation of an operating room.* Chapter five describes *the immediate preparation of the patient* and of *the assistant himself,* in which the *technique of asepsis* is thoroughly impressed. Chapter six is a very practical article on *the anesthetist.* The two succeeding chapters take up *the preservation and preparation of surgical accessories* and the details of "*instrument handing.*" They are brimful of "wrinkles" and useful hints. Chapter nine describes all the various manipulations concerned in *assistance at the wound,* from the proper manner of holding the hands and body to the method of managing an irrigator tip. A most valuable chapter is the tenth, concerning itself as it does with those important matters that may confront an assistant left to watch a patient just after operation. Vomiting, urination, pain, the arrangement of the bed and other numerous details are succinctly dealt with, and a valuable table for differentiation between shock and concealed hemorrhage is incorporated. The management of these and all other emergencies that may arise is given in great detail.

The second part of the book (chapters eleven to twenty-five) deals with the most commonly performed operations, describing them step by step, from the assistant's standpoint. A regional classification is here adopted. With each operation is given a list of the instruments and accessories required, and the manner of preparing them. The complete technique of intravenous infusion is accurately described.

A useful appendix to the work consists in the *preliminary preparation and routine after treatment of operative cases,* the various methods of preparing suture material, iodoform gauze, etc., etc., and a *formulary* of surgical solutions and wound applications, etc. In a second appendix are printed illustrations of general surgical instruments, thus placed to be convenient for reference.

It is a book that no young practitioner should be without, as it will prove of the greatest value to him in his every day work. Likewise it should be in the hands of every nurse and hospital interne. Its use will not only assure greater efficiency in everything pertaining to surgical operations but will prevent all the embarrassing delays and annoyances caused by inexperience or lack of knowledge.

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ORIGINAL ARTICLES.

DEFORMING CHRONIC RHEUMATIC ARTHRITIS.*

By C. W. Strobell, M. D., Rutland, Vt.

We seem to be as far as ever from a true solution of the etiology of rheumatism, and treatments based upon any of the theories of its causation occasionally appear to cure at least its acute manifestations. I shall not discuss, in my present paper, the acute manifestations of articular rheumatism, but confine myself to its chronic deforming phase, in general, and in particular will endeavor to draw attention to certain important points inherent in the condition, that call loudly, both for recognition, and, for a certain rational treatment, lacking application of which, efforts at cure will be apt to prove unavailing.

In casting about for a subject for my paper, I was deeply impressed with some remarkable results following efforts I was making to improve the physical condition of an apparently hopeless case of deforming chronic articular rheumatism; efforts put forth, I am free to confess, tentatively, for failure seemed inevitable—and, because the patient's earning capacity was at stake.

Case entered August 1st, 1903.

Case—John. R., Swede; age 49; single; height, 5 feet, 1½ inches; weight, 131½ pounds; occupation, drillman in quarry.

Family history, free from rheumatism.

Personal history. At age of twenty-eight, while living in Sweden, had an attack of acute articular rheumatism, affecting the entire articulations of both feet. He was confined to his bed in the hospital for one month, and was able to resume his usual labor, three months from the beginning of the attack. Since that attack, had had no sickness of any kind for twenty years.

In April of 1903, eighteen months ago, he was again attacked with acute articular rheumatism, affecting the right knee; was then confined to bed three days, when matastasis occurred, to the cervical vertebrae. Thereafter, says that he was not confined to bed any longer, but was able to sit up and move about. Five months later, was able to resume his labors at the quarry, although with much pain and difficulty. Since then, has worked steadily, as drillman. Up to six months ago, all jarring movements, such as walking, lifting, etc., caused more or less pain in the neck, chest, and shoulders. The head, neck and shoulders were gradually drawn forward, and downward, upon the chest, and eventually became fixed. In this position the lower borders of the horizontal portion, or body of the inferior maxillary, being parallel to, and within one and one-fourth inches of the anterior plane of the sterum; the point of the chin being on a line with the second costosternal articulations. Attempts at forced movements of the head or neck, in any direction, caused most severe pain, and accomplished nothing. The second, or dorsal, curve of the spine, was extremely accentuated, insomuch as to diminish his stature—originally 5 feet, 4½ inches in height, to 5 feet 1½ inch, presenting a most

*Read at the 91st annual meeting of the Vt. State Med. Soc.

unsightly degree of deformity. The upper dorsal, and posterior cervical muscles, were enormously thickened and rigid; the anterior superficial, and deep cervical muscles were atrophied, and the pectorals were thickened and rigid. The vertebrae of the first or dorsal curve, including the seven cervical, and first two dorsals, were extremely sensitive, and painful to pressure at all accessible points along the spinous, transverse, and interarticular processes. Subluxation of the body of the fourth cervical vertebrae, forward, was marked, as was also that of the seventh cervical, backwards. The anterior surfaces of the superior angles of the scapulae, at the insertion of the levator anguli, were exquisitely tender, as were also the points of origin of the scaleni, from the first and second ribs; similarly affected were the origins of insertion of the clavicular and sternal heads of the sterno-cleido-mastoids.

DIFFERENTIAL DIAGNOSIS.

Of course, the important thing, in the beginning of such a case, is, differential diagnosis. With reference to this, arthropathies due to Locomotor Ataxia, or Poliomyelitis, had, obviously, no part in the causation of the condition, from entire lack of other symptoms peculiar to these diseases. It resolved itself, then, into the question—is it true Rheumatoid Arthritis Deformans, or, is it Deforming Chronic Articular Rheumatism? In case the former, efforts at cure would prove entirely futile, according to reliable modern authorities. In case the latter—although practically the same pessimistic prognosis is given, yet considering recent important additions to our therapeutic resources, an attempt, at least, could be made, to primarily, arrest the further progress of the disabling deformity; and, secondarily, to restore if possible the natural mobility of the affected joints and involved tissues, and also, happily thereby, the normal spinal curves.

In considering differential points in diagnosis, we noted that Arthritis Deformans is of spinal origin, according to Mitchell. It produces, in varying degree, destruction and erosion of cartilage, thickening of bone, and, ossification of joints. In the great majority of observed cases, however, the joints of the fingers are primarily affected; later, while all other joints may be. My own practical experience in this disease has been entirely with the primary manifestation, affecting the finger joints.

In the *N. Y. Med. Journal,* issue of August 27, 1904, Lerch, of New Orleans, reports a typical case of well advanced Arthritis Deformans, which is extremely rare, and may therefore be of sufficient interest to warrant recital. The history gives the following details: "Seven years previously, the man had been thrown from a wagon, striking on the palms of his hands, and bruising his face. The disease began to develop four months later, beginning in the neck, and, gradually involving the entire spine in ankylosis. There was entire absence of pain throughout the development of the disease." Continuing, the author gives the following vivid description of the present condition:

"The whole man was ossified like a kwiras, the ossification interfering with the respiration; the abdomen was shrunken and covered by a loose, dry, shriveled skin; the joints were swollen, inflamed, and ankylosed; the extremities like sticks, bare of muscles and fat; the dry, scaly, anaemic skin of dirty color hanging in large folds around the long bones; the scapulae standing out like two stiffened wings, and the swollen oedematous feet and ankles covered with sores. Indeed, one of the most distressing pictures we can ever meet. Only with the greatest effort the patient was

Deforming Chronic Rheumatic Arthritis.—Condition on first day of treatment.

able to open his mouth wide enough for the passage of food, which increased his intense suffering."

In Prof. Lerch's case of rheumatoid arthritis deformans, the second, or dorsal curve is reversed, while the cervical, or first curve is straightened, by the chin, neck and shoulders being thrust forward, and upward. The spinal column was ankylosed throughout. The degree of deformity was more painfully apparent, however, in my case of deforming chronic rheumatic arthritis; and it is to be observed, that the spinal curves, in the latter, are accentuated, resembling more the letter S, while, in rheumatoid arthritis deformans, the normal curves are gradually reversed.

So much for arthritis deformans.

In chronic articular rheumatism, on the other hand, stiffness and pain are always present, with some swelling of the muscles. These are usually aggravated by wet weather, and the longer the inflammation continues, the more the degree of motion is impaired, and the greater the tendency to deformity. The chronic is almost invariably preceded by an acute stage, of varying severity and intensity, and there is a marked tendency to metastasis and recurrence.

In view of these different considerations, including the acute onset and fact of recurrence, the conclusion was reached, that this was clearly a case of deforming chronic articular rheumatism, and so the case was undertaken, without, however, giving the patient any encouragement as to results.

PATHOLOGY.

The pathological condition, in chronic articular rheumatism, includes thickening of the joint capsule and ligaments, and the periosteum of bones contiguous to the affected cartilages. In intimate continuity with the periosteal attachments of the cervical muscles to the bones, is the deep cervical fascia, which ramifies extensively among the soft structures of the neck, forming sheaths, and partitions for muscles and vessels. In the case of muscle, after investing its fleshy portion, the fascia sweeps along, over the tendons, and onward over their periosteal attachments, cementing, as it were, the line of union. This is very important to bear in mind, in order to gain a clear conception of the real pathological condition, calling for correction.

The opposing walls of the distorted synovial sacs, usually become agglutinated, and much thickened. The intervertebral substance and articular cartilages may be degenerated, softened, absorbed, or ossified. Or, fibrous and bony ankylosis may form, rendering the joints stiff and deformed.

Chronic inflammatory thickening of cartilage, synovial sac, ligaments, periosteum, and fasciae, is due to "Local Stasis" which constitutes the essence of the chronic process. Local stasis is due to the mechanical action of organized inflammatory exudates, constricting the calibre of capillary blood vessels, by pressure and contraction; thus interfering with the free and constant supply of fresh blood, constituting a Blood Famine, so to speak, while yet there is engorgement. This constitutes chronicity in disease, and is fitly termed *local stasis.*

In this condition, multitudes of fine nerve fibrils are pinched and starved, thus giving rise to local spasm and pain, and in this connection, it should be remembered that, to the individual affected, there is conscious, and subconscious pain,—pain that the individual consciousness does not appreciate, but the little nerve fibrils do, as the resultant reflex conditions prove. To illustrate: Take a rheumic case that comes to you, complaining of some recently developed stiffness of the knee joint, presenting no external evidence of disease,—

systematic palpation of the edges of the interarticular cartilages, will positively disclose a painful area, or areas, very much to the patient's surprise.

Eliminating from the case, all consideration of the entire and unaffected apparatus of deglutition and respiration, as well as the more important blood vessels, nerves, and containing sheaths, we have only to consider the cervical mechanism of motion.

The closely allied pathological conditions calling for correction, were: The removal of organized inflammatory exudates; intermuscular ligamentous and fascial adhesions; and the soreness of local stasis. The reduction of subluxation; the restoration of normal muscular inervation, and the restoration of atrophied and hypertrophied muscles.

The first object of attack was the soreness, seated at all points of origin and insertion of the muscles and ligaments, due to the above mentioned "local stasis." To illustrate; the points of attachment of the sterno-cleido-mastoid muscle, to the sternum, clavical, and mastoid process, were exquisitely tender to pressure and manipulation, while the atrophied, fleshy portion was free from pain; the muscle itself being in a state of rigid contraction, curved like the letter "U", and to the touch, giving more the impression of bone, than of muscle. The points of attachment of the scalenis, anticus, medius, and posticus, to the first and second ribs, and traverse processes of the cervical vertebrae, were also painfully tender to pressure movements, the muscles themselves free from pain; the fleshy portions considerably atrophied, and the entire muscle in a state of wiry contraction. Faradic contraction, naturally enough, aggravated the pain. It was as if nature had purposely created this painful condition, at the point of attachment, that they might irritate the muscles into continuous contraction, to guard the articular disease against surprises or violence.

It was similarly so with the attachments of the rectic capitis anticus, major, minor and lateralis, and longus colli, to the occipital bone, and to the transverse processes; the same pain-points and the same stiffness. So, also, it was with the attachments of the cervical portions of the trapezia rhomboidei, splenii, serratis, and the levator anguli scapulala, etc., to the spinous process and occiput. These muscles were, however, in a state of extreme hypertrophy, and relaxation, as if striving to furnish a thick, warm covering for the affected area.

The attachments of all the ligaments, spinous, transverse, capsular, and, occipito-spinal, were in the same painful condition.

Pressure upon the interarticular cartilages was not productive of soreness, except at the site of subluxation, where the pain was excruciating, under frictional pressure.

The condition of subluxation, so called, requires a description to be appreciated, on the antero-lateral surfaces of the spinal column, at about the level of the larynx, which at rest, were two wedge-shaped projections forward, measuring about a half inch in every diameter. The right projection was larger than the left. These bodies felt, and seemed like hypertrophied masses of cartilage. It was this particular lesion that was the keystone of the deformity. The exquisitely painful sensitiveness of these masses, and of the intervening depression, was remarkable.

It is quite surprising, how all these sore spots had to be demonstrated, by systematic palpation, the patient not being aware of any soreness, anywhere, so long as he made no attempt at forced motion; and all the more agreeably so, to note the decided decrease in soreness, following each daily treatment,

Deforming Chronic Rheumatic Arthritis.—Condition at end of third week of treatment.

Deforming Chronic Rheumatic Arthritis.—Condition at end of sixth week of treatment.

which was, at first, confined wholly to the painful spots, and having for its object the dissipation of local stasis.

TREATMENT.

Deep frictional pressure has been continued throughout the treatment, until at the present time, the only soreness remaining is at the subluxation.

Simultaneously with this treatment was used Roentgen Rays, to break down adhesions, and stimulate absorption and nutrition. For this purpose a "hard" or, high vacuum tube was used, focused upon the neck, at a distance of four inches, for ten minutes, on every third day.

At three day intervals, also, one hundred milli-amperes of direct current, was freely passed through the affected joints, with the same object in view, the breaking down of adventitious tissue by electrolysis. These applications were followed, in four instances by a crop of pustules, due to staphylococcus infection of the skin, through minute lesions produced by the current.

The hypertrophied dorsal, and the atrophied, deep and superficial, cervical muscles, were daily stimulated by the indirect current, from the primary, of an 800 yards fine wire coil. The frictional spark, and static insulation were also occasionally made use of.

Each day, after treatment, the neck was enveloped in a hot pack, for an hour.

Internal treatment consisted of Pot. Iodidi, 100 grs. daily, with occasional lapses. This was the maximum dose his stomach would tolerate. Every alternate week, full doses of ergot were given, as adjuvant to elimination. The bowels were regulated by the Imp. C. C. Pil, U. S. P., together with the occasional use of a mercurial.

Later, all these remedies were discontinued, and the patient was put on a steady diet of Syr. Ferri Iodidi, and Cod Liver Oil.

All manual labor was discontinued, during the two months of treatment. The only restriction in the diet, was as to meat, which was allowed very sparingly.

The first photographs were taken on the first day of treatment, thus the full degree of deformity above the waist line is shown. The enlarged and rigid condition of the muscles of the back, and, the extreme flexion of the head and root of the neck, is conspicuous.

The second photographs were taken three weeks from the beginning of treatment. At this sitting is to be noticed a decided lessening of all the distressing features of the case, the shoulders set back considerable, the swelling of the muscles is decidedly less; the head is up five inches from the sternum; the face is free from the heavy frown and wears an alert expression; movements, however, are, as yet, extremely limited, slow and painful.

The third set of photographs were taken six weeks after the beginning of treatment. There is an equally remarkable improvement, with that of the first three weeks. The chin is up seven inches; the shoulders are on a level; the chest is more prominent; the dorso-lumbar curve, is greatly improved; the root of the neck is considerably loosened, so that there is about three-fourths of the normal latitude of motion, in all directions. Rotation of the head is about one-half the normal. Flexion and extension of the head is quite good, over a range of four inches; more than that is accomplished with difficulty. The shoulder action is quite normal.

At the present writing, two months since the beginning of treatment, the man is making about the same rate of progress as all along, and is greatly improved in his general

appearance and health. He resumed his usual labor on Monday, October 10th.

About October 1st, in order to obtain accurate data of the onset of this attack, I addressed a letter of inquiry to the family physician, Dr. J. R. MacGuire, of West Rutland, who responded as follows:

West Rutland, Vt., Oct. 2d, 1904.

My Dear Doctor:—

I am in receipt of your favor of the 30th ult. making inquiry in regard to the case of John Rasmussen. I regret to inform you that I did not make notes of the case, so what information I am able to furnish you will be from memory. However, in substance, I saw Mr. Rasmussen at his residence in April, 1903. Found him suffering from acute rheumatism, located principally in region of cervical vertebrae. Pain, swelling and tenderness; tendons, and connective tissue about the joints infiltrated and oedematous. Attempted movement caused exquisite suffering. Temp. 104; with other characteristic symptoms, such as we usually get in this disease. The "alkaline treatment," careful regulation of the secretions, strict attention to the diet, with tonics, was the course pursued. Alkaline carbonates were crowded during the first forty-eight hours, or until we got full physiological effect. Phenacetine and codeine were given for pain and fever.

By no possible means could the patient be induced to straighten his neck; if on his back three or four pillows at least must be used, and so arranged as to give the vertebrae a pronounced curve forward.

After the acute symptoms had subsided, (about ten days), massage, stimulating lotions, and later, blisters, were resorted to, without any material results, although the treatment was persisted in for several weeks.

Yours, etc.,

J. R. MacGUIRE, M. D.

DIAGNOSIS OF PNEUMONIA.

By Geo. Rustedt, M. D., Rutland, Vt.

As a rule the invasion is sudden, a distinct chill being the first notification that something is wrong, which generally lasts from 15 or 20 minutes to two or three hours, the intensity being greater generally than in any other disease with the exception of two or three. It is stated by some authors that the chill of pneumonia may be distinguished from that of other diseases by its violence and short duration. It the disease is not ushered in by a chill we may look for great prostration, almost approaching collapse.

In children the initial stage may be marked by convulsions, headache or delirium, the chill being absent.

In old people the chill is apt to be absent on account of the disease coming on insidiously and not recognized until there is great prostration and a comatose state when the patient has only complained of lassitude for some days.

Usually following a chill the patient will complain of pain generally fixed in the region of the nipple, but this is not always present as it depends upon the seat of the disease, whether deep or superficial. If present, it is increased by coughing, or by deep inspiration, indicating that the pleura is involved, but generally does not continue for more than two or three days. If longer we generally regard it as that of pleuro-pneumonia.

So constantly increased in frequency is the respiration that it is rarely less than thirty per minute and frequently more but we do not find the frequency of the pulse to correspond to the frequency of respiration.

As dyspnoea is present in most cases yet we do not rely on this as determining the amount of lung involved by its severity as some pa-

tients will suffer more from dyspnoea caused by nervous prostration than from the extent of lung tissue involved. Cough is present generally from the first and for the first twenty-four hours usually dry, if not, the expectoration is mostly bronchial, but after this the "characteristic expectoration of pneumonia" as termed by many, which as a rule is of a brick dust color, which indicates extensive blood changes. But in some cases no expectoration occurs throughout the course of the disease.

A close scrutiny of the countenance will reveal great assistance in the diagnosis of this disease. It is more or less flushed and anxious, assuming a dusky tint, in some cases almost a lividity.

Temperature is one of the most important factors in this disease. The sudden rise which marks the invasion reaches 102° to 105° and even higher, which is of grave import. As a rule the temperature is lowest in the morning, reaching its maximum in the evening, but for the first few days the change is but slight, usually one degree. It is generally understood that a high temperature for ten days or over indicates that the inflammation is extending.

There is quite a variation in the pulse in pneumonic patients in cases of moderate inflammation. It ranges from eighty to one hundred and twenty per minute, but in severe cases may reach 140.

In more severe cases the pulse is strong, full, and incompressible, unless the pulmonary circulation is much oppressed, then it is small, frequent and feeble. Also with a high temperature the pulse will be rapid and feeble.

In this disease the cerebral symptoms are not very marked. There may be some headache which does not continue for any length of time except in children, when we may get some delirium with the headache resembling meningitis. The tongue is generally coated with a thick creamy coat and in severe cases a brown dry tongue is found with nordes on the teeth, lips dry and parched.

We obtain great help in our diagnosis from physical signs which may be brought out by inspection, palpation, auscultation and percussion.

By inspection we notice the movements of the affected side to be restrained and as the disease progresses the expansive movements are markedly diminished.

By auscultation we distinguish the sounds and find in the first stage they are somewhat feeble and dry, owing to no exudation, but as soon as exudation does occur fine crackling sounds are heard and the vocal sounds are slightly increased in intensity.

In percussion dullness will be observed over the seat of the pneumonia, indicating the extent of the inflammation while over the healthy portion the resonance will be increased.

In auscultation bronchial respiration will be heard over the affected portion, the crepitant rale giving place to tubular breathing, the voice sounds are increased in intensity over all that portion of the lung that is the seat of consolidation.

Diagnosis is based on the aggregate of the special symptoms as mode of onset, chill, fever, pain in the chest, cough, the peculiar expectoration, dyspnoea, the abnormal pulse-respiration ratio, character of breathing, the physical signs, and in addition a microscopical examination of the sputa we should be pretty positive of no mistake.

In small incised or punctured wounds of the hand it is always desirable to carefully trim off the projecting margin of epidermis, so that the cut is completely exposed. There is then much less likelihood of infection taking place.—*Int. Jour. of Surgery.*

LOOSE BODIES IN THE KNEE-JOINT.

By John B. Wheeler, M. D., Burlington, Vt. Professor of Surgery, University of Vermont, Medical Department, Attending Surgeon, Mary Fletcher Hospital.

Our patient is Mr. J. H. D., twenty-two years old, a machinist. His family history is negative. He has never had tuberculosis or rheumatism and has always been healthy except for the local trouble which we are about to consider.

Thirteen years ago he strained his right knee badly when jumping. The joint swelled and was painful, and he was lame for some time, but perfect recovery, as he supposed, finally resulted. Two or three years later he noticed a hard, movable lump at the inner side of the knee, and since then he has at different times observed others in various parts of the joint. One was close to the first one, two others close to the upper part of the outer border of the patella, and two others were in the neighborhood of the hamstring tendons. All are very movable and the patient can, with his fingers, move those on the inner side of the joint around above the patella to the outer side. He is greatly annoyed and inconvenienced by an occasional "catching," as he says, of the joint when he is walking. When this happens, there is a good deal of pain. The joint swells and the patient is lame for from twenty-four hours to ten days. He never falls, however, when the joint "catches" and the pain, while bad enough to make him pretty lame, is not very intense. The intervals between attacks vary from a month to a year or more.

On examining the knee yesterday, I could detect only two lumps, which are all that I can find now, with the patient etherized. They seem to be about an inch each in diameter, are situated one inch external to the outer border of the patella and are hard and very movable, slipping readily from one side of the joint to the other under the quadriceps tendon. There is no effusion or swelling of the knee and motion is unrestricted.

The absence of deformity and of any evidence of the existence of an acute or chronic inflammatory process in the knee, and the fact that the symptoms are such as are more likely to be caused by a loose body in the joint than by anything else, give us good reason to believe that the patient's trouble is due to the movable lumps to which I have called your attention, or to others which the joint may also contain. I will therefore undertake their removal at once, and afterwards will discuss the subject more at length.

Steadying the lumps with thumb and finger, I cut down upon them with a longitudinal incision two inches long. On opening the capsule of the joint, they present in the wound and are easily extracted. You will notice their very irregular shape, and that while one the them (See Figure 1, photograph) seems to consist wholly of cartilage, or at least is wholly covered with cartilage, about half of the other (Figure 2) is bare bone. I can neither see nor feel any more loose bodies through this incision, but as it is very likely that there are more, I make another incision, parallel to the first, just internal to the inner border of the patella. After searching for some time, I have found this one (Figure 3) underneath the ligamentum patellæ. It may seem strange to you that so large an object with such an uneven surface should be hard to find, but it is so smooth (and the synovial fluid makes it feel still smoother) that the finger easily slips over it without recognizing it. I now find another one (Figure

4) at the back of the joint, just behind the space between the femur and the tibia. This one is somewhat smaller than the others and its surface is much less uneven. It will therefore slip about even more easily than they do, and may be the one which has caused most of the trouble. After another careful search, I fail to find any more loose bodies. Others may be present, however, for the synovial cavity of the knee-joint is so large and has so many pockets that it is hard to be sure that all parts of it have been explored. I now give the joint a thorough rinsing with normal salt solution, and close both wounds by sewing the joint capsule with a continuous catgut stitch and then sewing the skin in the same way, without drainage. The wounds are covered with a dressing of sterile gauze, and a plaster-of-Paris bandage is applied from the toes to the body.

The plaster-of-Paris bandage will be removed in a week, the dressing changed and a fresh plaster bandage applied. The patient can then sit up and in another week can go on crutches. In four weeks from now the second plaster-of-Paris bandage can be removed and the patient can begin to walk without crutches, wearing an elastic knee-cap. This of course, is supposing that no infection occurs and that the wounds heal by first intention.

Loose bodies occur in the knee-joint about nine times as often as in all the other joints. They may be of traumatic origin, that is, they may be pieces of cartilage or bone, or both, which have been broken off by some injury to the joint. They may also be the result of a chronic inflammatory process in the joint. Some of the fibrin in the fluid of a chronic synovitis may coagulate and form fibrous lumps, or it may organize into connective tissue, so that the joint may contain loose bodies of fibrin or of connective tissue. The synovial membrane of a diseased joint sometimes becomes fringed with hypertrophied villi, which contain connective tissue, cartilage, bone or fat. If fat predominates the condition is called *lipoma arborescens*. Pieces of this fringe may break off and form loose bodies in the joint, so that lumps of fat, as well as of fibrin and connective tissue, are sometimes found free in the joint.

Showing exact size of loose bodies removed from knee-joint of J. H. D., March 28, 1905.

The size and number of loose bodies in the joint vary greatly. When their origin is from

an injury, there are seldom more than four, and their size varies from that of a pin-head up to a diameter of an inch and a half, but those which result from disease may be very numerous and most of them are very small. As these specimens show, loose bodies may have almost any form, though an almond shape is said to be the commonest. They are very slippery and slide about the joint in a sudden and elusive way which has given them a name by which they are known in Germany, "Joint mice."

It is stated by as good an authority as Virchow that these bodies can and do grow after they have become loose in the joint, deriving their nourishment from the synovial fluid. Although this statement is not universally accepted, the appearance of these specimens suggests its correctness. There is no history of any tuberculous, rheumatic or other disease of the joint except the occasional attacks of acute synovitis which are the consequence, instead of the cause, of the presence of the loose bodies. We must, therefore, conclude that their origin is traumatic and that they were probably broken off when the patient strained his knee in jumping. Now, if these four great chunks had been of their present size when they were detached, it is hardly possible that they could have gone two years without causing trouble or even attracting the notice of a bright, intelligent boy like our patient. Moreover, if they had not take on some kind of growth since they were broken off, it is hard to account for their very peculiar, irregular shapes, and for the smooth coating of cartilage which completely covers three of them.

The symptoms of the presence of loose bodies in the knee-joint are very characteristic. When walking or otherwise using the joint, the patient suddenly feels an intense pain in it, often so severe that he drops to the ground and sometimes faints. This pain is caused by a loose body getting caught between the articular surfaces. The joint is stiff, usually somewhat flexed, and remains in this condition until the loose body is dislodged. This usually occurs in a few minutes, although sometimes it refuses to move for several days. An acute synovitis follows the attack and the joint is swollen and painful for a few days, sometimes for a few weeks.

The diagnosis is made from the above symptoms plus the recognition of a movable lump in the region of the knee. In the present case, you notice that the symptoms are not as severe as those that have just been described. The patient has never dropped to the ground in an attack, nor has the pain been intense enough to make him feel faint. But the pain and the ensuing synovitis have been bad enough to cripple him seriously, and when, in addition to these symptoms, movable lumps could be distinctly felt, the diagnosis was beyond question. Symptoms resembling these are produced only by the similar condition of dislocation of a semilunar cartilage. This lesion, however, is always traumatic, and the symptoms appear immediately on receipt of the injury, instead of waiting a long time, as in our case. Another difference is that loose bodies, as a rule, are spontaneously dislodged within a few minutes from the time when they "catch," while a dislocated cartilage generally remains in its false position for days, unless dislodged by manipulation, a manœuvre which is by no means always immediately successful. Occasionally the reverse of these rules obtains. A loose body, as I have just said, may remain "caught" for days and a dislocated cartilage may be readily replaced, spontaneously or by manipulation, but these are exceptional cases.

The prognosis of loose bodies in the knee-joint may be stated as follows: The patient

is liable, at any time, to be suddenly and painfully crippled by the "catching" of the loose body, and the acute synovitis which results from this condition may become chronic. Sometimes a loose body may become adherent to some part of the joint where it can make no trouble, or it may be absorbed. Under these circumstances, recovery of course takes place, unless the joint contains other loose bodies. But, as a rule, a loose body in the knee is a very treacherous and troublesome inmate. Although the joint may seem normal most of the time, the attacks, when they do come, are so sudden, painful and disabling that the patient loses all faith in his knee and lives in constant dread of its "catching."

The treatment is palliative and radical. Palliative treatment aims at the relief of the acute symptoms caused by "catching" and at the subsequent steadying and supporting of the joint, so that "catching" may be less likely to occur again. If the loose body is not spontaneously dislodged from its position between the joint surfaces, the knee should be forcibly flexed, extended and twisted. These manipulations are often so painful that they have to be made under an anesthetic. The after-treatment consists in immobilizing the joint with a plaster-of-Paris bandage from the toes to the body, or with a ham splint. At the end of a week or two, the inflammatory symptoms will have subsided. The appliance may then be removed and the patient may go about as usual, wearing a well-fitting elastic knee-cap. A cap should always be worn upon a knee which contains a loose body, as the body is less liable to make trouble when the joint has the firm support which the knee-cap affords.

The radical treatment consists in the removal of the loose body, as has just been demonstrated to you. In pre-antiseptic days, opening the knee-joint was so apt to be followed by severe and dangerous infection that it was greatly dreaded and hardly ever done. But with careful attention to modern methods of operative technic, the risk is slight and is well worth taking for the sake of deliverance from such painful and annoying symptoms as have troubled our patient.

(August 12th, 1905.) The patient made a perfect recovery. The wounds healed by first intention and the knee now appears to be perfectly well. The patient runs, jumps, dances and uses his knee as any active young man naturally would do. He still wears a knee-cap.—*Int. Jour. of Surgery.*

A STUDY OF ENZYME ACTION IN ITS RELATION TO HUMAN METABOLISM AND THE DEVELOPMENT OF TUBERCULOSIS.*

By H. Edwin Lewis, M. D., of Burlington, Vt.

Every cell in the human body has an identity of its own. In other words, it is a unit, and has its own struggle for existence, the phenomena of which are covered by the general term metabolism. Fundamentally such phenomena consist of the appropriation and absorption of pabulum, the digestion of the same by certain biochemic substances called enzymes, the throwing off from the cell economy of waste or by-products, and finally the conversion of digested material into the protoplasmic substance of the cell itself. The whole process of cell metabolism is essentially chemical. The enzymes, or more properly, the zymogens of each cell are especially adapted to the individual needs of that cell. At the same time, while the identity of each zymogen

*American Medicine for Aug. 12, 1905.

varies with the identity of the cells or tissue in which it is found, there are certain general characteristics common to each type. For instance, the action of each enzyme is limited to either starches, sugars, proteids, or fats; such action may be katabolic or anabolic, the reversibility of action depending on conditions present; they have the capacity of rapid increase under certain conditions, or at least an increase of power; and adverse conditions may modify, decrease, or completely destroy them. Through the action of these enzymes the passage of nutritive material from the alimentary canal to the ultimate cell is accomplished, the whole process consisting of a series of splitting and building phenomena. To quote H. G. Wells,[1] "All metabolism may be considered as a continuous attempt at establishment of equilibrium" and "the living body, whether unicellular or multicellular is a vast, unceasing series of chemic reactions."

Nutritive material is hydrolized and split into new substances to permit of osmosis through the cells lining the intestines, reconverted into nutritive material in its passage through these cells and in the carrying fluid on the other side (which is the blood-serum and lymph), split again to permit of diffusion into the appropriating cells, and finally, reconverted in each cell for use in its future effort to maintain an osmotic balance with extra-cellular substances. A break may occur at any point in the sequence of ferment action from the alimentary canal to the ultimate cell, but it is always at the expense of the latter, with consequent injury and decrease of tissue formation and growth.

A great deal of splendid work in the study of enzymes has been done by Hill,[2] Kastle and Loewenhart,[3] Croftan,[4] Wells, and others. These investigators have given us definite knowledge of the presence and functions of these biochemic entities and physiologic research has been greatly enriched by their studies. It has been positively shown that the enzymes of the body are of the highest importance in the maintenance of metabolistic equilibrium, and the presence of diastase, protease, lipase, and a glycolytic ferment has not only been demonstrated in the blood and tissues, but when for any reason these specific bodies or substances are decreased or become inactive, a corresponding increase in the presence of undigested or disorganized proteids, fats, and sugars is demonstrable in the fluids of the body, more especially the blood.

A very important question that has arisen in the investigation of ferment action is in regard to the origin of enzymes and their activity. To be sure, certain chemic bodies have been found in blood, lymph, muscle and other tissues, corresponding to enzymes, but these substances are comparatively inert until combined with other complementary bodies. Undoubtedly these chemic bodies are zymogens, possessed of potential powers which only become active when united with other substances, and this conclusion is justified by a very significant discovery published by Croftan[5] in 1902 to the effect that pancreatic extract and hemoglobin when mixed together possess greatly augmented power in the destruction of sugar. More recently Cohnheim[6] has shown that extracts of muscle and pancreas are each practically devoid of glycolytic action until mixed together, when the destruction of sugar is marked. While Blumenthal[7] questions the assumption of Cohnheim, that the cells of various tissues are absolutely inactive until mixed with pancreatic extract, he nevertheless recognizes and admits the potent influence which the addition of pancreatic extract exerts in increasing the sugar-destroying properties of all tissues. This is still further corroborated, but conversely, by the

fact that extirpation of the pancreas is invariably followed by the material decrease of sugar destruction all over the body,[8] with the result that dextrose and way-products are not only found in all organs, but also in large quantities in the blood and urine.

To carry the thought still further and show the almost specific action of the pancreatic secretion in perfect metabolism, mention should be made of the relation which obstruction of the pancreatic ducts bears to fat necrosis. Opie[9] has recently demonstrated in a series of experiments on cats that ligation of the pancreatic ducts causes very widespread fat necrosis involving almost the entire abdominal fat, at times the subcutaneous and pericardial fat, and reproduces the wide destruction of fat occasionally observed in human beings and animals. He considers such fat necrosis as the result of the damming back of the secretions of the gland which escape into the surrounding tissues and produce lesions typical of the action of the fat-splitting ferment. Flexner,[10] Langerhans,[11] Whitney of Harvard, and others, have all performed experiments that tend to show that fat necrosis is the essential result of the penetration of the fat-splitting ferment of the pancreas into fat tissue.

In the light, however, of our present knowledge concerning the complementary action of the pancreatic secretion, it would seem that fat necrosis is an evidence of incomplete or vicarious fat metabolism in some part of the animal organism. The damming back of the pancreatic secretion permits the fat-splitting enzyme of the gland to exercise its destructive influence at the wrong place in the sequence of the normal metabolistic process. The obstruction of the normal secretion of the pancreatic fluid denies the zymogens of the tissue the specific complementary action of that secretion, and as a result they remain inactive and are prevented from rebuilding the fat which the pancreatic ferment has vicariously broken down. Of direct interest is the fact that Hewlett[12] has recently shown that lipase can be detected in appreciable quantities in the urine of dogs in which fat necrosis has been produced artificially by ligation of the pancreatic ducts. Inasmuch as a considerable amount of inactive lipase throughout the tissues and fluids of the body would be expected as a result of the special conditions producing fat necrosis, its presence in the urine would naturally follow.

At any rate, although the question calls for further study, from what we know already, there are excellent grounds for considering fat necrosis rather more definitely as a perverted and incomplete metabolism of fat.

The all-important conclusion to be drawn from the foregoing, however, is this, that the pancreas and its secretion, aside from its direct influence as a digestive agent, has a more remote but none the less important relation to intracellular digestion, especially of fats and sugars. Lesions of the pancreas interfering with its functions are quite generally followed by fatty degeneration throughout the body, and the increase of fat and sugar in the blood under similar conditions is easily demonstrable. Still further corroborative is the fact that Boenniger,[13] Schwarz,[14] and Fischer[15] have shown that there is an increased amount of fat in the blood of diabetes. The significance comes from the fact that the majority of investigators believe today that diabetes is the result of structural change in the pancreas, more especially the islands of Langerhans.[16]

The great problem to which I have endeavored in a humble way to fit these ideas of metabolism is in regard to tuberculosis. In 1902, in a paper published in the *New York Medical Journal,* I had occasion to mention

the role of enzymes in the maintenance of normal metabolic equilibrium, and at that time I called attention to the possible influence, failure of any link in the chain of digestion from the alimentary canal to the ultimate cell might have on the development of tuberculosis. While the paper referred to was crude and incomplete, it nevertheless opened up an unlimited field for study and research.

During the past few years I have carefully and painstakingly pursued a clinical study of the tuberculous process, correlated by such experimentation as has been permitted by my opportunities. My constant aim has been to determine as far as possible the relative importance of tubercle bacilli and metabolistic variation in the development of this disease. As a result of my study, while I have no intention of questioning the essential and specific etiologic role of tubercle bacilli in the production of so characteristic a disease as tuberculosis, I have, nevertheless, become convinced that, as recognized clinically, it is simply a serious complication of an antecedent disease far more general in its pathology and etiology.

Tuberculosis, the disease, is a germ disease. This is irrefutable, but its presence in human beings always implies that it is simply grafted on to some previous or preexisting process favorable to its growth. Just what this process or condition is, still remains an open question, but there are substantial reasons for believing that a failure of proper metabolism provides the conditions essential for the development of tuberculosis. In order to establish a basis for a working hypothesis I have not only carefully studied the literature of metabolistic phenomena, but have experimented as extensively and thoroughly as my limited time and facilities would allow. As a result of this study and investigation, which have been of absorbing interest, I feel more certain than ever that human susceptibility to tuberculosis consists primarily of a break or perversion somewhere in the sequence of enzyme action. To obtain, however, any pertinent knowledge of the influence, if any, that metabolistic variation bears to tuberculosis, all possible facts must be examined in detail.

To begin with, therefore, while a failing metabolism is a constant accompaniment of the progress of tuberculous disease, far more significant is the fact that the diseases or conditions characterized by such failing or perverted metabolism, like diabetes,[17] chronic indigestion,[18] and pregnancy,[19] are those most often complicated by tuberculosis. Knowledge of the peculiar conditions of the blood and tissues in these diseases and the morphology, biology, and biochemistry of the tubercle bacillus[20] makes it logical to believe that the foregoing or similar conditions must exist in the human body for any rapid growth and development of the germ. In diabetes and chronic digestive disturbances, and occasionally in pregnancy, there is a marked increase in the presence of sugars and fats in the blood and urine.[21] Likewise examination of the blood and urine of patients with incipient tuberculosis shows that there is also an increased amount of fat in these fluids, and in three different cases of early tuberculosis under observation during the past year I have found sugar in the urine and in easily demonstrable quantities in the blood. Does it not naturally follow that these specific evidences of faulty metabolism in early tuberculosis are as likely to be related to cause as to effect? I certainly believe so, and it seems a rational deduction to me that free and disorganized fats and sugars in any tissues of the body provide the very conditions essential for the development of the tubercle bacillus, an organism whose composition and culture are so closely related to these substances.

The relation of the preceding facts to the clinical development of tuberculosis becomes even more evident when we study the significant influence that certain of the socalled etiologic factors of tuberculosis bear to the course of enzyme action. For instance, let us consider chronic indigestion, the result of functional or organic changes which usually follow dietetic errors or bad habits like alcoholism. These changes may directly obstruct and therefore may alter the biliary and pancreatic secretions, or offer serious obstruction to the osmotic process in the intestinal wall itself. The effect at any rate is the same. An insufficient amount of modified nutritive material is dialyzed, thus the tissues suffer from actual deprivation of food, and at the same time the vicious influence is still further maintained by the failure of the complementary body of the pancreas to reach and energize the zymogens of the remote tissues.

Another prominent cause for the failure of human metabolism is air starvation. The widespread appreciation of the influence of this factor on the development of tuberculosis is well shown by the great importance given to the open-air treatment of this disease and the earnest campaign being instituted everywhere against impure air. Yet, in spite of a general recognition of the very beneficial effect of pure air in the treatment of tuberculosis and other wasting diseases, we are still unable to define its influence, except to attribute the results in a general way to stimulation of vital processes. Some simple experiments I have recently performed may have some significance. I have found that ferment action is profoundly influenced by oxygen. This fact may have been observed by others, but I have been unable to find any reference to it in the literature of the subject. In vacuo the action of the pancreatic ferments is very markedly inhibited, but in an atmosphere of almost pure oxygen their destructive powers are greatly increased. This important fact has suggested to me that the increased amount of oxygen which necessarily enters the circulatory system of the individual constantly living in the open air may increase the enzyme action of those ferments which have been acting, though with lessened power. In this way, although the enzymes may be actually deficient as well as inactive, the relative value of those that do remain may be greatly increased. Thus in conjunction with forced or increased feeding a closer approach to metabolistic equilibrium temporarily takes place. If internal conditions are favorable for the prolongation of this readjustment, and the tuberculous infection is small, then the resulting process is held in abeyance or "starved out" by the withdrawal of conditions which have enabled the bacilli to live and grow. The organism may thus free itself of tuberculosis, and it is no uncommon thing to witness in the clinical course of this disease just such restoration of metabolistic equilibrium with more or less permanent arrest of the tuberculous process. But too often such arrest is only temporary, even under the most favorable conditions of pure air and good food, and then we are left no alternative belief than that internal conditions are unable to maintain the balance of metabolism at a safe point. As it falls, the advent of new infection or the ignition of the smoldering embers of the old take up again the progressive characteristics of the tuberculous process. The alternate gain and loss so often seen in the course of tuberculosis well depict the almost spasmodic attempts of the human organism to readjust itself.

Another factor that is recognized as prominent in the etiology of tuberculosis is mental worry, depression, or alienation. The intimate relation borne by the central nervous system to the secretory organs of the diges-

tive apparatus, at once shows the influence that may be exerted on digestion and nutrition. That tuberculosis is a frequent complication of nervous and mental diseases, follows as the logical result of the baneful influence these diseases have on intracellular and extracellular digestion.

Three or four years ago, having occasion to administer pancreatic extract for the relief of evident internal indigestion in the course of chronic pulmonary tuberculosis, I was surprised to note a very marked and immediate increase in the bodily weight of the patient. I alternated the administration of the pancreatic extract, giving it one week and not the next. The weeks during which it was administered, the patient gained from one to three pounds, but the weeks in which it was not given, he invariably lost in weight. I realized that the action of the pancreatic extract might be peculiar to this individual case, because of particular conditions present that would not be found in all cases of tuberculosis. But its influence was so marked and salutary that I felt justified in administering it tentatively in every case of tuberculosis that came under my care. This I did, and as a result have established the gratifying fact that patients taking the open-air treatment gain much more rapidly and substantially when pancreatic extract is given to them regularly than when it is not.

In my effort to account for the influence of the pancreatic extract, which study and investigation led me to believe was not limited to facilitating the digestion of food in the intestinal canal, I was tempted to administer pancreatic extract hypodermically. I was aware of the investigations which seemed to vest the pancreatic secretion with a complementary action, and reasoning that if the changes in the pancreas itself and in the intestinal mucosa were such as to prevent its selective action on the zymogens of the blood and tissues, the immediate introduction of pancreatic extract into the blood and carrying mediums of the body might energize or vitalize the dormant zymogens and thus promote the metabolism of sugar and fat.

Accordingly, I laid the proposition before a prominent firm, whose specialty is the preparation of digestive ferments, and they kindly prepared for me some active sterile preparations of fresh pancreatic gland. These I administered in varying dosage, always diluted with liberal amounts of distilled water. I carefully studied the effects of these injections of pancreatic extract and my first observation covered a series of 11 patients. Later I have been able to study 27 other cases of tuberculosis and the therapeutic effects of pancreatic extract. In all of the cases of incipient pulmonary tuberculosis, the results have been marked and highly satisfactory. In the cases further advanced the results have not often been so good, but in almost every case, even some advanced ones, the patient has shown a very marked temporary increase of bodily weight immediately after its use, with decided amelioration of cough, fever, night sweats and debility. The limitations of this paper prevent my giving cases or methods in detail; these I hope to embody in another paper, but I have definitely and positively determined that the administration of pancreatic extract is a valuable adjuvant to open air and good food in the treatment of early tuberculosis.

To substantiate as much as possible the evident potent influence of pancreatic extract when given hypodermically, I have carefully examined the blood of several tuberculous patients before and after its administration, and I have found that its use is followed by a very perceptible decrease of free fat and free sugar. The appropriation of food from the

intestinal canal is increased when the pancreatic extract is administered hypodermically, and this would be expected if it has any digestive value at all, since increase of enzyme action in the blood and tissues would promote intestinal osmosis in bringing about a balance of the metabolistic process.

It is only fair to state that the patients who have undergone the treatment with pancreatic extract, both internally and hypodermically, have all had the advantages of the best food and thorough open-air treatment. While improvement in early cases would be expected under these conditions without the pancreatic extract, I have determined conclusively that good results are hastened and increased by the thorough routine use of this product.

The exigencies of medical practice and the limitations of time and equipment have necessarily prevented me from following many lines of study and investigation relative to the subject, that I realize are necessary to substantiate more thoroughly the deductions I have drawn. I can imagine no better fate than the opportunity of carrying on careful researches of metabolism in its pathologic aspects. As such an opportunity has not presented itself to me, I have utilized what I have had, and present this paper as the result. Its actual value may be small, but I sincerely hope that it may serve to stimulate more definite and extensive research in regard to the chemistry of those bodily changes which constitute predisposition or susceptibility to tuberculosis. The field of physiologic research is a broad one, but behind the phenomena of metabolism I believe lie great truths and facts, the discovery of which will place within our reach the mastery and specific control of tuberculosis.

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SPECIAL THERAPEUTIC ARTICLES.

THE TEST OF TIME.

By Oscar F. Baerens, M. D., Ph. G., Professor of Diseases of the Ear, Nose and Throat, St. Louis College of Physicians and Surgeons, St. Louis, Mo.

When a medical student has learned the fundamental principles of medicine and surgery and assimilated them, he is usually a safe man to send to the bedside with a pencil and pad of blanks. These fundamentals are the fruits from the tree of experience and constitute the physician's most valuable possessions.

As a teacher I have learned that maxims and aphorisms impress themselves upon the minds of my students more readily than a lengthy discourse and it has always been my custom to interpret them in my discourses and clinical lectures on diseases of the ear, nose and throat.

Limiting, as I do, my practice to these diseases, I as a matter of course, am more familiar with the requirements and needs of patients of this class and I have learned that cleanliness in addition to being next to godliness, constitutes about 60% of the treatment of simple catarrhal conditions of these structures. In this era of rapid fire pharmacy the doctor is almost daily the recipient of samples and literature pertaining to them and much of his valuable time is consumed by the detail men and representatives of manufacturing pharmacists. While it is not denied that hosts of these pharmacals are meritorious to a greater or less degree, it can neither be argued that the average life is too short to carry on a series of laboratory and clinical experiments to verify the statements of their producers. I believe it to be most profitable to thoroughly familiarize one's self with a given number of standard preparations and then to use them whenever and wherever indicated. During my experience as a pharmacist I have had ample opportunity to learn the merits of properly prepared pharmacals and I believe that I know one of these when I see one. In Glyco-Thymoline I have found a preparation upon which the body medical has placed the seal of approval and one calculated to meet the requirements of the medical practician's varied needs. The preparation is too well known by reason of its world-wide (I use this term advisedly) use, to necessitate or warrant a description or analysis here, nor do I propose to speak for others beside myself. It is, however, a pleasure to state that for the past eight years I have used this preparation to the exclusion of all others in my work at the clinic and in private practice whenever I wanted a mild cleansing antiseptic detergent remedy. During the period of time I have a large number of cases on record which I could detail would space permit, but I must desist and limit myself to a few which I will offer to show why I confine myself to this single remedy and leave it to the reader to determine the value of my judgment.

Mr. G. C. H., age 37, travelling salesman, consulted me in reference to his "catarrh," which had given him much discomfort for some time. Complained of frequent attacks of headache, occasional sore throat and incidentally mentioned the fact that his sense of smell was failing him. I examined his nose carefully and found him in the first stage of beginning atrophic rhinitis. The tissues looked dry and drawn, there were some crusts which were very adherent and had some odor. When detached, which was with difficulty, the mucous membrane showed a tendency to bleed. I spent some time in rendering the affected parts perfectly clean, using a solution of Glyco-Thymoline and water equal parts, warmed to proper temperature. He was further instructed in the use of the little K. & O. Nasal Douche which he continued to use daily. I gave him general instructions as to his habits, diet, way of living, and he left me. Saw him several months later while passing through the city, and he came up to the office and I looked him over again. To my great surprise, the atrophy has been unmistakably arrested in its progress, his throat was normal, he not being obliged to hawk so incessantly any more, and his sense of smell had returned completely. Here is a case which was entirely restored by the conscientious and diligent use of Glyco-Thymoline.

Fred H. K., 26, vocalist, came to me com-

plaining of his throat, which troubled him considerably in his work. Stated that he had received treatment from three or four physicians without receiving any benefit. Said previous treatment consisted in cauterizing the tonsils; throat no better for all this. Upon examination found nose normal and pharynx in fair condition, and in the face of all I had learned from previous treatment was puzzled for a few moments. Completing my examination with the small mirror passed up behind the soft palate, I noticed a deep ulcer high up in the naso-pharynx, completely hidden from view by the velum palati. Everything at once became clear to me. Time and again I succeeded in getting results when others failed because I took the trouble to inspect the naso-pharynx, a cavity very much neglected. There was only one thing to do and one way to do it. Glyco-Thymoline was ordered to be used with equal parts of warm water as a douche for the nose. Patient readily learned the trick of closing up the cavity and allowing the medicament to remain in contact with the diseased parts for quite a while. In two weeks this patient was well of a trouble which threatened to cause him to abandon his vocal work, and which had caused him considerable expense, pain and loss of time. I number him among my most grateful patients.

NINETY-SECOND ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY.

The 92nd Annual Meeting of the Vt. State Medical Society will be held at Burlington, Oct. 12th and 13th, 1905. The sessions will be held in the new Medical College Building and the following program has been arranged.

FIRST DAY.

THURSDAY MORNING, 9 O'CLOCK.

1. Called to order by the President, P. E. McSweeney, Burlington.
2. Prayer by the Chaplain, Geo. Y. Bliss, Burlington.
3. Reading of the Records by the Secretary.
4. Report of the Committee of Arrangements, B. H. Stone, Chairman.
5. Reports of Officers and Delegates:
   Secretary—Geo. H. Gorham.
   Treasurer—B. H. Stone.
   Necrology—Chairman, M. H. Eddy.
   Legislation—Chairman, S. E. Darling.
   Delegates to the Medical Department University of Vermont, Dartmouth Medical College, and to the different Medical Societies.
6. Obituary of W. R. Hutchinson, W. H. Giddings, Bakersfield.
7. Obituary of W. D. Huntington, J. N. Jenne, Burlington.
8. Obituary of William N. Platt, C. W. Howard, Shoreham.
9. Obituary of E. P. Fairman, S. E. Darling, Hardwick.
10. Obituary of E. B. Mack, F. T. Kidder, Woodstock.
11. Obituary of C. C. Rublee, G. L. Bates, Morrisville.
12. Obituary of O. E. Carter, D. L. Brown, Danville.
13. Obituary of W. M. Stearns, O. J. Gilchrist, Rutland.

Adjournment.

THURSDAY AFTERNOON, 2 O'CLOCK.

1. Introduction of Delegates from other Societies.
2. Vice-President's Address, The Physician as an Educator, M. L. Chandler, Barre.
   Discussion opened by J. M. Hamilton of Rutland and L. H. Ross of Bennington.
3. Stenosis of the Pylorus in Infancy. The Technique of gastro-enterostomy. Lantern slides. Charles L. Scudder, Boston.
   Discussion opened by D. C. Hawley of Burlington and C. W. Strobell of Rutland.
4. Puerperal Eclampsia. C. W. Bartlett, North Bennington.
   Discussion opened by E. P. Lunderville of Richford and J. T. Rudden of Bellows Falls.
5. A few of the more uncommon acute infections with surgical treatment. S. E. Maynard, Burlington.
   Discussion opened by G. C. Berkley of St. Albans and T. H. Hack of Proctor.
6. Diagnosis and treatment of some chronic diseases, E. R. Campbell.
   Discussion opened by H. D. Holton of Brattleboro and O. G. Stickney of Barre.

Adjournment.

Meeting of the House of Delegates at 5 P. M. at the Medical College.

THURSDAY EVENING, 7.45 O'CLOCK.

President's Annual Address, Tumors Complicating Pregnancy, P. E. McSweeney, Burlington.
Discussion opened by C. E. Chandler of Montpelier and H. H. Swift of Pittsford.

The annual banquet will take place at the Van Ness House at the close of the evening session.

J. B. Wheeler, Anniversary Chariman.

SECOND DAY.

FRIDAY MORNING, 9 O'CLOCK.

1. Report from the House of Delegates.
2. Paper. Thirty-six years Obstetrical Practice. J. D. Hanrahan, Rutland.
   Discussion opened by W. J. Aldrich of St. Johnsbury and J. F. Blanchard of Newport.
3. Organic and Idiopathic Epilepsy, D. A. Shirres, Montreal.
   Discussion opened by S. E. Lawton of Brattleboro and W. L. Wasson of Waterbury.
4. A Specific Treatment for Pneumonia, C. B. Doane, Springfield.
   Discussion opened by H. H. Lee of Wells River and C. S. Hodgkins of Castleton.
5. Cerebro-Spinal Meningitis, with report of cases, W. S. Phillips, Arlington.
   Discussion opened by C. S. Caverly of Rutland and L. A. Russalow of Randolph.
6. General Principles of Alkaloidal Medication, W. C. Abbott, Chicago.
   Discussion opened by A. L. Bingham of Williston and C. W. Ray of Chester.
7. The Treatment of Appendicitis, E. J. Fish, So. Royalton.
   Discussion opened by F. D. Badger of Coventry and C. A. Pease of Burlington.
8. Voluntary papers and reports of cases.

Adjournment.

THURSDAY AFTERNOON.

A reception for the ladies will be held in the parlors of the Ethan Allen Club from 3 to 5 o'clock.

Reception Committee—Mrs. P. E. McSweeney of Burlington, Mrs. M. L. Chandler of Barre, Mrs. Geo. H. Gorham of Bellows Falls, Mrs. B. H. Stone of Burlington, Mrs. J. H. Blodgett of Saxtons River, Mrs. C. H. Beecher of Burlington, Mrs. D. C. Hawley of Burlington, Mrs. J. B. Wheeler of Burlington.

THURSDAY EVENING.

The annual banquet will be held at the Van Ness House, to which the ladies are cordially invited.

FRIDAY MORNING.

A carriage drive will be given around the city to the visiting ladies.

The Ethan Allen and Algonquin Clubs extend a cordial invitation to all members of the Society to visit their rooms during the meeting.

Place of Meetings—The sessions of the Society will be held in the lecture rooms of the new Medical College, Pearl street. Take cars on Church street.

Headquarters—The headquarters of the Society will be at the Van Ness House.

Exhibits—The usual large exhibit from the leading drug houses, manufacturers of surgical instruments, and book publishing firms will be displayed in large and commodious quarters at the College building.

Registration—All members and visitors are requested to register their names on entering the hall.

Railroads—Round trip tickets at convention rates will be on sale at all the principal stations on the Rutland, Central Vermont, Boston & Maine railroads and Montpelier and Wells River railroad.

Papers—All papers read at the meeting are the property of the Society and should be put into the hands of the Secretary as soon as read.

NEWS, NOTES AND ANNOUNCEMENTS

Franklin County Medical Society.—The semi-annual meeting of the Franklin County Medical Society was held at the American House, Richford, Thursday, Sept. 28, the following physicians being present:

President, Dr. C. S. Scofield, Richford; Vice Pres., Dr. F. S. Hutchinson, Enosburg Falls; Secy., Dr. E. P. Lunderville, Richford; C. G. Abell, Dr. C. A. Pratt, of Enosburg Falls; Dr. E. M. Brown, Sheldon; Dr. E. T. Brown, Montgomery Center; Dr. E. L. Washburn, East Berkshire; Dr. L. M. Kelly, Manchester; Drs. J. H. Hamilton, R. M. Pelton, H. A. Bogue, C. C. Smith of Richford.

A uniform schedule of prices was discussed and adopted. It was also voted that clergymen shall not be exempt from the usual rates. The programme included an address by the vice president, F. S. Hutchinson, Enosburg

Falls; paper, "Diseases of the Heart," H. E. Lewis, New York; paper, E. T. Brown, Montgomery Center; Discussion of Fee Table; Reports of Interesting Cases, etc.

Appointment to the Isthmus of Panama.—Dr. H. Edwin Lewis, the retiring Editor of the *Vermont Medical Monthly* was tendered an appointment as physician in the Isthmian Canal Service Sept. 1st, 1905. The position is a lucrative one, but owing to more important connections with the *International Journal of Surgery* Dr. Lewis was obliged to decline the above honor.

A Vermont Sanatorium for Consumptives.—Vermont is to have a state sanatorium for the treatment of incipient tuberculosis, an institution to be erected without state expense and it is to be endowed with the sum of $100,000 for its maintenance. The donor is United States Senator Redfield Proctor, or as he wishes it to be understood, his children. In a letter to Dr. W. N. Bryant of Ludlow, secretary of the Vermont State tuberculosis commission, the senator says he will purchase a site, erect the buildings, which will cost about $50,000, endow it with the sum of $100,000 and as soon as the site is obtained will formally transfer that to the state board and the endowment will be paid as soon as the organization is ready to receive and invest it.

His son, Redfield Proctor, Jr., owes his recovery to health to the advanced knowledge and treatment at Saranac Lake, N. Y., where is located the state sanatorium of New York.—*Burlington Clipper.*

Alleged Malpractice Case Settled.—The case of G. M. and Margarie M. Cosgriff vs. Dr. P. E. McSweeney, of Burlington, has been settled and discontinued. The terms of discontinuance are not announced but it is understood that Dr. McSweeney did not pay any damages and that both sides are to pay their own costs. This case was brought for alleged malpractice, which consisted of an operation on Mrs. Cosgriff for appendicitis, from which it was claimed she did not fully recover. The case was once tried in Chittenden county court and occupied four weeks, some sensational evidence being submitted. The trial resulted in a disagreement. It was set for trial at the present term of Chittenden county court and a struck jury was drawn.—*Burlington Clipper.*

Dr. A. Palmer Dudley.—The death of Dr. Augustus Palmer Dudley in Liverpool, July 15, 1905, removed from the ranks of American gynæcologists one of the most skilful operators in his chosen field and a man most highly esteemed by his confreres, and also by a host of patients who have been the beneficiaries of his sympathetic care and treatment.

He was only fifty-two years of age and succumbed to pulmonary tuberculosis when the zenith of his fame had not been reached. His splendid work in the New York Post-Graduate School since 1887 carried his fame world wide, through the thousands of matriculants who there profited by his instruction.

Dr. Dudley at one time was Professor of Gynecology in the U. V. M. Medical Department.

Poulticing a stye is never advisable, since it may be followed by marked swelling of the lid and discomfort. It is much better to apply cloths dipped in warm water and frequently changed, their use being kept up for about fifteen minutes at a time.—*Int. Jour. of Surgery.*

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

H. EDWIN LEWIS, M. D., *Editor.*
FRANK C. LEWIS, M. D., *Business Manager.*

ASSOCIATE EDITORS,

D. C. HAWLEY, M. D. *Burlington, Vt.*
C. S. CAVERLY, M. D. *Rutland, Vt.*
S. C. GORDON, M. D. *Portland, Me.*
G. P. CONN, M. D. *Concord, N. H.*
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A. LAPTHORN SMITH, M.D. *Montreal.*
A. B. BISBEE, M. D. *Montpelier, Vt.*
J. M. FRENCH, M. D. *Milford, Mass.*
F. S. HUTCHINSON, M. D. *Enosburg Falls, Vt.*

Burlington, Vt., September 25, 1905.

EDITORIAL.

CHANGE OF MANAGEMENT.

With the current issue, the VERMONT MEDICAL MONTHLY passes into new hands. Dr. H. Edwin Lewis, who established the Monthly in 1895 and who has edited and managed it continuously ever since has become the Managing Editor of the *International Journal of Surgery* of New York City.

The retiring editor, as he relinquishes the Monthly, takes considerable pride in the fact that he has no apologies to make, nor grievances to adjust. THE VERMONT MEDICAL MONTHLY has been characterized by disinterested parties as "one of the leading local medical journals of the country," and it certainly has been a success from a financial standpoint.

No acrimonious attacks have ever appeared in the pages of the Monthly, and where nothing good could be said of any man or his motives, we have kept silent.

Many and many a time, in the earlier days especially, the obstacles and discouragements have seemed colossal, but steadfast earnest work has usually surmounted them all. The retiring Editor has felt bitterly the petty antagonisms and jealousies of certain medical men in Vermont, who have neglected nothing in a mean underhanded way to belittle and besmirch honest efforts, but all these things have been far overbalanced by the many kindnesses and courtesies he has received at the hands of his many real friends.

Thank God, the honest, upright doctors of Vermont are in the majority and though the retiring Editor has suffered from the venom of some of Vermont's Judas Iscariots, he can afford to forget such things in the more pleasant associations and attachments that he has enjoyed.

For the new management, the retiring Editor bespeaks the loyal support of those who have been honest friends of the Monthly. The medical men who are assuming the editorial and business departments are not only well known, but are unusually well fitted from education, experience, and professional standing to undertake the enterprise.

It is the earnest wish of the retiring editor that they may maintain not only all the VERMONT MEDICAL MONTHLY has won, but with new ideas and new energy that they may carry the journal to higher and broader successes.

A PRELIMINARY REPORT ON CELLS FOUND IN YELLOW FEVER WITH REFERENCE TO THEIR ETIOLOGIC SIGNIFICANCE.

Drs. Pothier, Hume, Watson and Couret, in the *Journal A. M. A.*, September 23, report that after a careful study of the blood of yellow fever patients they noticed the regular occurrence of certain cells hitherto unnoticed or not described. They state that these cells seem to be undergoing developmental changes which can be demonstrated in the stomach of

a recently infected stegomyia. These cells are entirely extracellular, though occasionally some are seen lying on the red cells; and on one occasion one was seen within the protoplasm of a morpho-neutrophile leucocyte. They give in detail the methods of staining and state that every effort was made to avoid sources of error. These stains were filtered, sterilized and examined, with negative results for other bodies.

It is to be hoped that these investigations will be substantiated by further research and that the real infective agent of yellow fever will be definitely discovered.

We are not ready to admit however, that the determination of the actual organism of yellow fever will mean the conquest of the disease, as the scare heads of the newspapers would attempt to convey. Knowledge of the cause of any disease is important principally for its prophylactic value. This is well shown by the discoveries of the bacillus of tuberculosis or of typhoid fever. The real and substantial benefits which have thus far come from such knowledge have resulted solely through rendering preventive measures more effective, but treatment of these diseases has made little or no progress. The reason is plain for the study of the treatment of any disease must go much further than bacteria. The multiple factors of vital resistance are of first importance in curing any disease, and this is a subject as intricate as life itself.

Therefore we wish to emphasize the fact that discovery of a germ or a pathogenic organism does not imply the mastery of the disease it produces. It is not the last word, by any means, and a vast unlimited field remains for other explorers.

All honor to pioneers, but it should be recognized that an infinite amount of hard painstaking study must be followed, even after the cause of a disease is known, before its cure or control can be established.

MEDICAL ABSTRACTS.

Dangers of Illuminating Gas.—The perils of the domestic use of modern fuel and illuminating gas, now so generally used, are pointed out by Dr. H. Leffmann, Philadelphia (*Journal A. M. A.*, June 3). The coal gas formerly employed was comparatively non-toxic, and its characteristic odor was a danger warning, but the modern water gas that has so largely replaced it in common use, with its larger content of carbon monoxid and its comparative lack of odor, is far more dangerous. Accidents from this cause are far more frequent than formerly, and carbolic acid and illuminating gas have replaced, at least in Philadelphia, he says, for suicides and accidental poisonings, the arsenic and laudanum of the Civil War period. A sleeper can easily absorb a fatal amount of modern water gas without being aroused, and Leffman shows by a simple calculation how a very small percentage of carbon monoxid—less than ½ a grain, for example, to 100 c.c. of blood—can render useless its hemoglobin. Gas stoves for cooking are used generally only in warm weather when natural ventilation is good, and the danger from them is therefore lessened, but their burners are seldom furnished with a collar to regulate the air supply, and the combustion is therefore liable to be irregular and deleterious gases are given out. Gas "stoves" or heaters connected with the gas pipes by rubber tubing are objectionable on account of the liability of leakage, which is very great unless the very best tubing material is used. The stopcock on the heater is especially objectionable, as it is the one most convenient to use, and when used

the leakage through the tube can go on unchecked. The precautions recommended by Leffman are: Prevention of sale of inferior tubing; having no stopcocks on heaters unless they are connected to house mains by metal pipes with tight joints and such construction as will prevent the rubber tube, even when of the best quality, remaining in free connection with the house main when the gas is not lighted. He would also have heaters constructed so as to give a larger radiator effect with a given gas consumption, and would have them placed only where the products of combustion can escape freely into the chimney. All burners on the Bunsen principle should be provided with collars to regulate the air supply, and purchasers should be instructed in their use. The commonly used illuminating mantles may also be objectionable by interfering with combustion, especially when worn or displaced, and the flexible tube of the ordinary drop-light be also a source of danger like that of the heater.

Subconjunctival Salt Injections.—S. D. Risley, Philadelphia (*Journal A. M. A.*, August 12), reports his personal experience with subconjunctival salt solutions which are, he says, always innocuous and often markedly beneficial in various pathologic eye conditions. Illustrative cases are reported of its use and value in corneal abscess, keratitis, hemorrhage and suppuration of the retina, etc. The mode of its beneficial action, Risley thinks, is through the well-known protective influence of the serum albumin poured out into the aqueous humor. It is probable the injection of neutral saline solutions of low specific gravity dilates the clogged channels of exit and dilutes their contents, thus hastening the flow of the lymph and albuminoid substances through their normal channels, and that this fluid is replaced by a fresh supply still richer in albuminoid substances carrying a fresh nutritive supply to the tissues. Recent observations have led him to think that similar good effects can also be produced by the prolonged application of saline stupes at body temperature directly to the conjunctival sac.

Bacterial Examination of Spinal Fluid.—Dr. T. W. Hastings (*Medical News*), in an article upon The Bacterial and Cellular Examination of the Spinal Fluid in Fifty Cases of Cerebrospinal Meningitis, states that the somewhat similar clinical manifestations of meningeal irritation, probably due to bacterial toxins elaborated in some other organ or tissue of the body other than the meninges, as in typhoid or pneumonia, both of which, however, can give rise to a true meningitis, can only be differentiated by a careful examination of the spinal fluid. He considers the micrococcus albus always a skin infection. With no exception the fifty cases of acute non-tuberculous infection produced a turbid fluid, while the five cases of tubercular infection gave clear fluid except for a delicate veil-like coagulum (Myas cobweb coagulum). Differential counting was made both by the wet and dry method. In the former a drop of centrifuged fluid was mixed with a drop of Loeffler's methylene blue, for the latter a drop of sediment was dried and stained by any of the blood stains, as Jenner's. For the bacteriological examination smears were prepared from cultures on glycerin agar, plain agar, and occasionally upon ascetic fluid agar, and stained by Gram's method and for tubercle bacilli. Of the 55 cases 42 were due to meningococcus (intracellularis), and two of these also gave the pneumococcus as well, 5 were due to the pneumococcus only, 5 to the tubercle bacillus and 3 to unidentified bacilli.

On differential counts the polynuclear cells predominated in the cases of meningococcus and pneumococcus, these cases differing in the bacteriological findings only. In the cases due to the tubercle bacillus the mononuclear predominated.—*Medical Review of Reviews.*

NEWER REMEDIES.

A New Liquid Antiseptic. — Parke, Davis & Co. have recently introduced a new liquid antiseptic of considerable power, called Cresylone. It contains 50 per cent of Cresylic Acid and forms clear solutions with water in all proportions.

A two-per cent solution of Cresylone is not only an excellent disinfectant for instruments and hands, but a valuable detergent and lubricant, too. It is said not to injure metallic or rubber instruments, though celluloid articles are apt to become friable under its action.

In the treatment of wounds a one-per-cent solution is usually employed, and a two-per-cent solution may be used in profoundly septic cases when more vigorous measures are indicated.

Cresylone completely arrests the development of pus organisms and is, therefore, indicated in the various suppurations with which the general practitioner has to contend. In the treatment of otorrhea, irrigation with a ½-per-cent solution is said to be of benefit. A solution of the same strength is of value in the treatment of ozena.

As it removes odor, it may prove of service in gangrene. In cancer of the cervix uteri the application of gauze saturated with a solution of Cresylone will remove the odor that accompanies this disease. For disinfecting sputa and stools Cresylone commends itself in the sick-room, hospital ward, schools, prisons, etc.

Therapeutically, the use of Cresylone has been suggested in various pathologic conditions, notably in the treatment of gonorrhea, lupus, tonsilitis, eczema, and cystitis of the female.

Seng.—The existing prejudice against Ginseng is due to the fallacious claims made for it by the Chinese. However, if one will judge by false claims only and never see the good in a drug, he will find his materia medica greatly curtailed. When the practical application of a drug demonstrates its usefulness, not in one case, but in many cases, as Seng has done for me, I am ready to subscribe to its therapeutic value, notwithstanding prejudice. Theory or prejudice have never yet cured a patient. In my experience Seng will stimulate all secretory glands and after cleansing with necessary eliminants, it will render the alimentary tract physiological. In the treatment of digestive derangements, whether primary or symptomatic, I find that in connection with a rational diet and indicated correctives, Seng will stimulate gastric secretion. In anemia and chlorosis, where the motor functions of the stomach are not disturbed, yet there is a decrease in secretion of gastric juices, it is of greatest value as collateral treatment.

J. J. Hoffman, M. D.

St. Louis, Mo.

The Stage of Exhaustion.—In the treatment of alcoholism and dipsomania, the physician is called to the case at the stage of exhaustion or prostration and a general derangement of nearly every function. Neurosis, cerebral congestion, cardiac acceleration, gastric and mesentric disturbance, nausea, retching, intolerance of food, intense irritation, insomnia and an endless variety of morbid sequelae, require prompt attention.

It will be found that antikamnia in combination with codeia will give a most prompt and satisfactory response in relieving all the array of symptoms so distressing and usually so obstinate as to defy all ordinary therapeutical interference. The best method is to administer one Antikamnia & Codeine Tablet (antikamnia gr. 4¾, codeine gr. ¼) every fifteen minutes to a half hour, until three are taken, then widen the interval to one and a half to two hours, according to the urgency of the symptoms. Under this treatment the circulation will modify, the cardiac pains subside, the tremor, anxiety and morbid vigilance will give way to rest, quiet, calm and peaceful sleep. The nausea and vomiting, together with the irritable coughs which so frequently characterize these cases, will all disappear.

The superior results obtained with "Antikamnia & Codeine Tablets" are due, in a great measure, to the fact that the manufacturers refine and purify all of the codeia which enters into these tablets, and this prevents the constipation, depression and habit which frequently follow the administration of preparations containing ordinary commercial codeia.

The Morning Dose of Saline.—Physicians should emphasize the importance to the majority of people past middle life, and especially to those who suffer from fermentive indigestion, particularly of the lower bowels, as so many do, of the morning toilet, or rather flushing of the bowel, with a well-diluted, non-irritating saline. Its action is first to unload the congested capillaries of the mucosa, and then to sweep out the accumulated debris, leaving the bowel fresh for the duties of the day.

To accomplish this a saline should be taken the first thing in the morning, a heaping teaspoonful, more or less as needed, of a good preparation, dissolved in a half-glass of cool water. Taken in this way one half-hour before breakfast it should act within two hours after breakfast, getting entirely out of the stomach before it receives food, thus flushing the entire canal for the digestive work of the day.

The best of all salines for this purpose is Abbott's Saline Laxative (granular effervescent magnesium sulphate, c. p.). Just enough should be taken to produce the desired effect—one good, free, satisfying, gratifying evacuation of a semi-solid consistency. Taking enough, and just enough, and taking it regularly under the conditions as outlined, no habit is established and the dose will not have to be increased. If irritating preparations are used, or if it is taken in any other way than suggested, this will not be the case. It is astonishing how much can be accomplished in the maintenance of health by the regular use of this preparation as outlined. Here is a pointer not only for many, many patients, but for the doctor himself as well.

Important Notice.—Judging from communications recently received, our reference to the "stegomyia fasciata" in connection with the "stegomyia punctata" has caused some physicians to suppose that we recommended Tongaline for yellow fever. This we emphatically disclaim.

The mention of these two species of mosquitoes was for the purpose of indicating that the mode of inoculation of yellow fever and malaria was precisely the same, and a careful reading of our statement will show that we had no intention to suggest that Tongaline was indicated in yellow fever, but on account of its pronounced eliminative action it did possess decided therapeutic value in the treatment of malaria.

We regret exceedingly that the notice referred to should have been misunderstood or misconstrued by anybody.

Mellier Drug Company.

St. Louis.

LIBRARY.

Vermont State Medical Society,
Oct. 13, 1905.

The Vermont Medical Monthly

Vol. XI. October 25, 1905. No. 10.

ORIGINAL ARTICLES.

IDIOPATHIC EPILEPSY AND ITS TREATMENT.*

By David Alexander Shirres, M. D., Montreal.

Professor of Neurology University of Vermont; Neurologist, Montreal General Hospital; Lecturer in Pathology, McGill University, Montreal; Neurologist Protestant Hospital for the Insane, Verdun.

On the 11th of September Dr. G. H. Gorham, on behalf of the Vermont State Medical Society, extended to me a cordial invitation to read a paper at their next annual meeting, to be held on the 12th and 13th of October. I at once replied that I would be very much gratified in accepting. For some time it was a debatable point with me what neurological subject I would discuss that might be both interesting and instructive. Neurology is a subject that at large is hard to understand, and neurological papers are, as a rule, uninteresting and hard to follow by the general practitioner. One must have a thorough memory picture of the anatomy, physiology and pathology of the central nervous system, before one can grasp and understand anything like clearly, the cause of the large variety of symptoms that occur in many diseases of this nature. For that reason, I wanted to discuss a paper that we would all be interested in, and have decided to bring before your attention this morning, in a brief review some considerations upon the nature of idiopathic epilepsy and its treatment. Those desiring to go more fully into the subject I would recommend to look up the recent publications on this disease by W. H. Wherry, A. Turner, C. L. Dana and A. Bush, from whose articles I have extracted some of the more interesting points to lay before you today.

*Read at the meeting of the Vermont State Medical Society, Burlington, Oct. 12-13, 1905.

This malady frequently crops up in general practice and is one that, unfortunately, has given little results as yet to treatment. In this paper I want to lay stress, particularly, on the preventative measures, rather than the treatment of the disease when once established. I am aware that I am referring to a malady which has been carefully and elaborately studied since the time of Hippocrates. The mere mention of this fact, is a reason for its further study as there is a perennial interest attached to a disease so frequent in its occurrence, so graphic in its manifestations and so intractable to treatment.

Idiopathic epilepsy is a disorder not dependent upon any disease nor upon a known or recognized cause. It is a chronic trouble and characterized by periodical seizures attended by loss of consciousness and usually by convulsions. Mental disturbances may accompany, or take the place of the convulsions. Idiopathic epilepsy shows itself in three rather distinct types of attacks. First, that of the severe attack called grand mal. I need not here refer to the classical fit well known to all physicians and described in detail in text books on medicine, but in passing cannot refrain from quoting the account of the grand mal seizure given by Lucretius, a writer who was able to cloak with poetical feeling one of the most gruesome sights within our knowledge. Writing some twenty centuries ago he thus describes an epileptic seizure:

"Oft, too, some wretch, before our startled sight,
Struck as with lightning, by some keen disease,
Drops sudden: by the dread attack o'erpowered
He foams, he groans, he trembles, and he faints;
Now rigid, now convulsed, his labouring lungs
Heave quick, and quivers each exhausted limb.
Spread through the frame, so deep the dire disease
Perturbs his spirit; as the brainy main
Foams through each wave beneath the tempest's ire
He groans since every member smarts with pain,
And from his inmost breast, with wontless toil,
Confused and harsh, articulation springs.
He raves, since soul and spirit are alike
Disturbed throughout, and severed each from each
As urged above distracted by the bane.
But when at length the morbid cause declines,
And the fermenting humours from the heart
Flow back—with staggering foot first treads,
Led gradual on to intellect and strength."

Second, minor attacks (petit mal) and third, rarer (?) larvated forms characterized by acute mental disturbances and called psychical epilepsy or the psychical epileptic equivalent. Briefly, I should like to mention some of the clinical phenomena called epileptic equivalents, symptoms met with in epileptics, at other times as independent symptoms which stand in close relation to the psychical condition underlying epilepsy. The phenomena about to be described present many points of interest and are of rarer occurrence than true epilepsy.

These phenomena too, are as a rule, difficult to diagnose unless you be on the lookout for them. Owing to the peculiar character of the phenomena which occasionally partake of the nature of a misdemeanor or even of crime, the condition is brought within the range of legal medicine. I refer to the phenomena known as psychical epilepsy or psychical epileptic equivalents. By epileptic equivalents are designated certain states of consciousness differing not only from the normal consciousness, but from the state of consciousness that usually occurs in epileptic attacks. Therefore, we have two conditions between which we must distinguish, but which we find it hard to do, first, the post-paroxysmal state following convulsive seizures and the psychical epileptic equivalent or phenomena taking the place of the ordinary fits. The best and certainly the most striking form of epileptic equivalent is that which is described as "automatic wandering." The patient may take long flights or make journeys of several hours or several days duration, during which his conduct is so natural as to attract no notice. Self consciousness is usually rather abruptly restored and he is astonished to find himself at a distance from home, with an intervening blank period of time.

This condition more closely resembles the somnambulistic state than any other, so much so indeed, that some states of somnambulism in adults and even in children appear to be epileptic in character. These attacks usually occur only at rare intervals and are of great practical importance from the medico legal standpoint.

Another condition known as narcolepsy or periodic falling asleep is also regarded as an epileptic equivalent.

Again, migraine and epilepsy are closely related, and I am of the belief that we should classify migraine as an epileptic equivalent. The points to which reference may be made as to their close relationship are the frequency of migraine among the ancestry of epileptics, the presence of periodic headache in those who are subject to epileptic seizures and the not uncommon substitution of migrainous attacks in youth, by epileptic fits in later years.

Another equivalent that to me is not uncommon, and one that I do not see mentioned in text books, is asthma. I have at present two patients who are suffering from associated epilepsy and asthma. For six months or a year they will have attacks of epilepsy and no asthma, or *vice versa.* Some here might deny their identity but that the two phenomena might occasionally occur together. Well, of course, that is a possibility, but when we look back to the frequency of epileptics whose ancestors suffered from asthma,—and this I shall show is by far a commoner occurrence than I have ever heard mentioned or read in medical text books,—we see the great etiological factor it is. From a percentage of epileptics at my Out-Door at the Montreal General Hospital and private practice the history of asthma in the ancestors is more frequent (I should say about 50%) than any of the more supposed common etiological factors such as heredity (15%), alcohol (5%), syphilis 5%), insanity (15%), phthisis or other states (10%). This may be due, in part, to my putting this question to all patients when working out their history.

Other equivalents or analogous states are, the somnambulistic state of hypnosis, absent mindedness, reverie, night horrors and convulsions during dentition.

PATHOLOGY.

Epilepsy is placed in the medical text books as a functional disease and one where pathological findings of any consistency have failed to be shown. Many changes have been described by different writers, but are held to be due to other conditions present at the same time, such as degenerative changes that are found where dementia, melancholia, etc. are marked features. Owing to apparent insufficiency of the pathological changes found in the brain of epileptics to form a satisfactory explanation of the epileptic phenomena, a

school of observers, more particularly in France, broke new ground in their endeavor to find an exciting cause of epileptic attacks, in bio-chemical changes. Much of the recent work upon epilepsy has been done along this line and numerous researches during the last decade have added largely to our knowledge.

Medical men of today are on the *qui vive* of expectation and feel assured that great progress is to be made in the near future in the treatment, by a more close and careful study of the bio-chemical changes in disease. Through this source, we have seen diphtheria now brought greatly under control, so also smallpox, tetanus, rabies, bubonic plague and within the last few days Prof. Behring of Germany has shown that tuberculosis in animals can now be arrested, if not cured, by the use of certain serum. I also feel that we are now approaching the successful method of treatment of epilepsy by working along this path.

I shall here give a brief resume of the general results of investigations that have been recently carried out along this line. As far as they have gone nothing very satisfactory has been reached, though many important conditions have been noted in the chemistry of the subject who is suffering from epilepsy.

1st. *Toxicity of the urine in epilepsy.*—Voisin and his associates have been the chief investigators in this line. They show that prior to a fit, the urinary hypotoxicity was estimated by injections into rabbits; that during the attacks the toxicity rose and reached a point considerably above normal after the fit (hypertoxicity); during the interparoxysmal period the toxicity was comparable to that of a normal person. Assuming these observations to be correct, a plausible and satisfactory explanation of serial epilepsy and the *status epilepticus* was at hand, but subsequent investigations by Bratz and others have failed to find the characters of the urine as described by the previous investigators.

2nd. *Toxicity of blood in epileptics.*—Herter and Bratz have failed to obtain any constant or positive results from the injection of epileptic blood serum into rabbits; others have at times.

3rd. *Reaction of the blood in epilepsy.*—Haig suggested that there was a definite relation between excess of uric acid in the blood and such maladies as migraine and epilepsy; but treatment directed along those lines has not been very beneficial. Krainsky propounds the doctrine that uric acid is not the toxic agent but a derivative in the form of ammonium carbamate, a substance having a convulsion-producing character as shown when injected into rabbits.

A study of the blood in epileptics prior to an attack seems to show diminished *blood alkalinity,* but whether this is due to retention of uric acid from the formation of carbamic acid or from the presence of acid toxins as yet of undetermined nature and source, remains unproven.

PHYSIOLOGY.

The epileptic fits are due to sudden discharges of nerve force. The seat of the discharge is the cortex of the brain. This condition is closely allied with hysteria. A paper on this subject was read by me here, before the Chittenden County Medical Society last winter. In hysteria and neurasthenia, I pointed out that the characteristic features were want of control of the different nerve centres, and the tendency to exhaustion shown clinically by the motor and sensory paralysis or paresis. Dana, in discussing epilepsy, shows that the discharging cells are in the severe seizures the large motor cells, the function of which is to store up and discharge nerve force. They are under the control of the sensory cells (angular cells) of the second layer which have an inhibitory power. These being diseased their power of controlling is weakened and the motor cells explode periodically. In sensory or psychical epilepsy the same mechanism exists.

DIAGNOSIS.

The diagnosis is based upon the character of the attacks and has to be made from hysterical convulsions, the convulsions of childhood, and the various toxic and organic or symptomatic convulsions.

COURSE AND PROGNOSIS.

Epilepsy shortens life to some extent. Most subjects do not live beyond the age of 40 or 50 years. About 10% become demented or insane. Ten per cent get well.

Petit mal is the worst type; the combined petit and grand mal is more favorable; and grand mal is the most favorable as regards

prognosis. The following prognostic rules are important. Prognosis is better in males than in females; better if the fits are nocturnal or diurnal alone; and better if the attacks occur infrequently. In Turner's recent work on epilepsy, (and under his care a very large number of epileptics are treated), he points out that the most favorable cases as to their arrest are those in which the onset of the disease occurs between 16 and 20. In those occurring before that, say about 8 and 10 years, it is not good. In those occurring after 20 up to 30 it is more favorable than before 10. Cases occurring after 30 are favorable, but in all likelihood these cases are not true idiopathic epilepsy, but are due to vascular changes, alcohol and other causes. Those cases which have a distinct history of heredity respond better to treatment than those without. Where there is a history of convulsions at teething, even though the epilepsy was of a much later onset, prognosis is more unfavorable.

TREATMENT.

In the earlier part of my lecture, I mentioned the importance of prevention, and a great deal can be done in this line. Epileptic mothers should not nurse their children, for if there is the least suspicion of epileptic taint, when such a mother nurses her child (and this is the rule, not the exception), not only is the child exposed to infantile convulsions, but the mother may easily suffer an aggravation of her own state. In our series of cases at the Montreal General Hospital, 80% of the epileptic children gave a history of convulsions at teething, and a very large percentage of those were breast fed (showing that the convulsions were not due to artificial feeding). Infantile convulsions I regard as a manifestation of idiopathic epilepsy.

Pre-natal treatment (i. e. during intrauterine life).—In cases whose ancestry show a marked history of epilepsy or alcohol prenatal treatment will serve to prevent these convulsions and assist the child to support the numerous and varied excitements which its neuropathic taint will surely bring about later.

In the young we have frequently the epileptic equivalents, which are often overlooked and not understood. If appropriate treatment, hygienic and medicinal, be carried out, epileptic seizures may never manifest themselves. The equivalents that are so frequently seen in childhood are night horrors, sleep walking, absent mindedness and marked irritability of temper. Wetting of the bed at night by young children who had previously good habits must be carefully inquired into, as it may be a symptom of epilepsy. In the giving of bromides, or such like treatment, for the forementioned symptoms it is necessary to continue their use for at least three years after the symptoms complained of have disappeared.

From time immemorial treatment of epileptics has been the most prolific field for quacks and vendors of patent nostrums, simply because it has been so nearly abandoned by the profession. Let the profession once lose faith in the cure or amelioration of any disease and there will quackery flourish like a green bay tree. Pronounce a disease incurable, and what follows? Does the patient sit down and fold his hands in despair? By no means. He goes where relief is promised. The percentage of cures is not great, but still there is a very respectable percentage when everything is taken into consideration. The reason why we have not succeeded in curing a larger number is due in a great measure to the fact that for many years the convulsions have been taken for the disease, and the treatment frequently been misapplied. The ideal treatment of epilepsy is practically impossible under ordinary circumstances. In the first place epilepsy is specifically and distinctly an individual disease and must receive individual care and consideration. The tendency in the modern study of medicine is to systematize and classify, and then to formulate general treatment, which is to apply to all and each case. The individual is frequently forgotten and overlooked.

There is no specific treatment for epilepsy, and no one method can be recommended in all cases. Success in the treatment is attained by the physician studying each separate case, and by the intelligent application of the method best adapted to each individual. Treatment cannot be learned from a text book. it must come from experience born of a desire to know the truth and an unflagging study of the morbid and physiological conditions present. I need here but mention the care that is to be bestowed on the dietary of epileptics, who, as a rule, have enormous appetites, and the necessity of using intestinal antiseptics such as salol and calomel. The

value of the bromides and their combinations for diminishing cortical excitation is well known to us all. I have found that trional given with the bromides is of great value, as it is also of great use as a temporary substitute when bromides have been taken for a long time and their discontinuance is required for a while.

Change of environment has sometimes very marked value in the treatment of the case. Hospital treatment, especially if it can be kept up for a long period, has also very valuable results. Removal from different forms of dissipation and of personal bad habits is necessary, which, while not causing epilepsy itself, may prevent a recovery so long as they exist, just in the same way that you would separate the alcoholic or morphine fiend from his source of intoxication. It is needless to expect recovery on the part of an epileptic in the absence of a clean life, for his mental, moral and physical surroundings have a more real and actual influence upon his well being than is found in any other class of disease except insanity.

One of the chief characteristics of an epileptic is the mental, moral and physical instability, and this feature must receive serious consideration if recovery is to be hoped for. In the large majority of epileptics, hysterical manifestations are a frequent accompaniment, such as hemianesthesia, etc., etc. Knowing this we can understand how mental suggestion, isolation, and careful treatment will act beneficially on epileptics, aside from convulsive symptoms. To repeat myself mental and other functional symtoms are manifested in epileptics as much as, if not more than, the convulsive element. Understanding that if the functions of the nervous system are long disturbed nutrition is bound to be affected in those structures, and this will be followed later by organic change. It is a well established fact that function and nutrition are closely correlated, and if one is long disturbed the other is bound to suffer, and when nutrition is interfered with organic changes then occur.

Recoveries in those afflicted with insanity exceed those of epilepsy. Why? Because the insane person is always placed under proper treatment, the form of his malady demands this. The epileptic is not even troublesome at first, and is temporized with at home until his malady is beyond eradication, then he may be sent to some institution.

Dr. W. H. Wherry in a recent article gives the reason why so few recoveries in epilepsy take place, under the following five headings:

1. An insufficient knowledge of the real conditions present.
2. Treatment of the convulsion, instead of the epileptic condition as understood.
3. Treating epileptics en masse, instead of individually.
4. Treatment postponed until disease becomes well established.
5. Limited provision for special care and treatment.

In spite of all this, however, it is gratifying, as well as inspiring, to know that epilepsy, instead of being an incurable disease, has, under the most unfavorable circumstances, shown a schedule of recoveries in excess of some other diseases and which, in the future, will be made much larger. Recoveries in epilepsy reported by recent writers are: Nothnagel, 5%; Laehr, 6%; Ackerman, 7.6%; Wildermuth, 8.5%; Dana, 5% to 10%; Turner, 10.2%; Habermaas. 10.3%; Alt, 12.5%.

DISCUSSION.

Dr. M. R. Crain, Rutland, Vt.—Quite a number of years ago I looked up the subject of epilepsy very carefully, and at that time the percentage of recoveries was only about 20%. Certainly it is very gratifying to see the progress which has been made up to the present time, when we have from five to even over ten per cent. With regard to the use of bromides, I feel from my own personal experience that bromides should be given alone and not combine it with anything else. In my experience, the bromides given never disturb the stomach if you dilute them enough. I always dilute the bromide in water and give it in vichey or milk,—say 30 grains of bromide given in one-half pint of vichey or milk—and I never had a case where it was well diluted in which it ever disturbed the stomach. With regard to the treatment of the grand mal, a case occurred as follows: A man had an attack, and no physician being near, some one in the crowd suggested standing him up. They stood him up and he got out of it all right, and when I arrived he was practically better. After that I tried standing up patients afflicted with this disease and I have found they come out even more quickly than they do lying in a horizontal position. The patient becomes extremely pale, with tonic spasm of the muscles of the face. The pupil is invariably dilated from the first. Tonic spasms of all the muscles then occur. Respiration is impeded and asphyxia rapidly develops. The muscles contract and relax in quick succession. I find that by standing the patient up perfectly straight, he will soon come out of this fit, and I should certainly advise you to try this treatment with the first case you have come under your attention.

Dr. E. R. Campbell, Bellows Falls, Vt.—I simply rise to ask the question what bromide or what combination is generally used?

Dr. John H. Blodgett, Saxtons River, Vt.—I have a patient, a boy, 11 years old, who, during all the summer vacation, never evinced a sign of a fit, but just as soon as he was sent to school he began to have them. Now during the summer he probably ate green apples, went swimming, climbing trees, and probably did everything his mother didn't want him to do, but just as soon as she made him go to school, and probably used the rod on him, he began to show signs of fits. Now I want to know what recommendations should be made with regard to sending this boy to school.

Dr. W. C. Abbott, Chicago, Ill.—I would like to say a word before this society because I believe that the three gentlemen who have spoken have voiced the trend of all of us. The essayist has given us an orthodox study of all that is known of epilepsy—its anatomy, its pathology, its etiology, its symptoms, prognosis and its treatment. Now while we have done a lot of good in the past, we still have a field open for us to do more good. We should begin by showing the necessity of treating epileptic equivalents. Now, why did this little boy, having a good time all summer, eating green apples, doing everything he should not do, wait unil school began, and he was confined in the school room two-thirds of the day, before his disposition soured on him? Because in the presence of a good time and sunshine, it is eliminated. Epilepsy is a chronic functional disease of the nervous centres, marked by sudden signs of temporary loss of consciousness or some other mental disturbance, accompanied by tonic or clonic convulsions. We know that certain cells in the body are out of fix in cases of epilepsy. Every cell is a chemical laboratory. Now those cells that are not digesting properly, having a minute toxemia in themselves and so produce these occasional explosions. What is the thing to do? There are three things you must do. You must control your patient. Now that means absolute control. It means you should know what your patient does from the beginning of the day up to night—from his rising in the morning to his going to bed at night. Second, elimination; and third, disinfect the alimentary canal. We all know that if an epileptic patient says he is going to have a fit at 7 o'clock, he is bound to have it and no one can prevent it. Now, if you have full control of your patient and full control of the family, you will by changing the trend of thought of your patient, persuade him to forget he is to have a fit at the appointed time, and by a little forethought on your part you will have overcome one of the obstacles for which you have been striving. Some one asked what bromides should be given. I say broaden it out—do not give any particular bromide, but give one, then another, until you have gone right through the entire list.

Dr. D. A. Shirres, Montreal (closing discussion).—I want to thank you for listening to my paper and say that I am glad it was of enough interest, so some asked questions. I think you all have the same opinion as Dr. Abbott regarding treatment of the equivalents. It is then you have the power to do some good. As regards habit, Dr. Abbott has mentioned that branch in a rather jocular manner. Now I take a patient under my care and they don't have a fit for weeks, where before they had them every seven or eight days. I encourage them and show them that their trouble is not serious. I persuade them to become interested in something and try to have them take plenty of outdoor exercise with a change of scene, a change of thought. Children coming into the hospital are allowed to roam about and are there quite a few weeks before they have a fit. Now, regarding this boy. If he does not like to go to school and makes a fuss over going, he should first be encouraged about his school work. Things should be promised him if he goes to school, and perhaps in that way he will go and in his expectations of enjoying some little present, forget his fit and perhaps overcome it; but if he is going to go to school and have fits every few days, or even every few weeks, he should by all means be taken from school and allowed to have plenty of sunshine, exercise, and good care. Dr. Abbott has mentioned the use of bromides, and I think you all agree with him that no one particular bromide should be given continually, but a change made as often as it is found necessary.

TUMORS COMPLICATING PREGNANCY.*

By P. E. McSweeney, M. D., Burlington.

I have chosen for my subject tonight, "Tumors Complicating Pregnancy." My reasons for choosing this subject are two-fold: First, I have seen but little written upon tumors in recent literature; and secondly, cancerous, ovarian and fibroid tumors are a comparatively rare complication in pregnancy, and a discussion of the subject by this society may save the life of some unfortunate woman.

CARCINOMA.

Some of the reasons why this complication is rare are because, cancerous tumors for instance, do not appear as a rule, until near the menopause, when the female does not often become pregnant and because the foul discharge destroys or washes away the spermatozoa. Fehling found five cases in 3,000 pregnancies and Winckle, three cases in 12,000 pregnancies. I have not met a case of cancer of the uterus in 1,583 labors which I have attended in this city and vicinity. I have attended one case of premature labor in a case from another county, which came to the Mary Fletcher Hospital, with a carcinoma of the cervix, which was so extensive that a hysterectomy could not be performed.

The diagnosis of cancer of the uterus in pregnant women is not difficult as a rule. The patient complains of more or less pain and a feeling of discomfort in the pelvis, and if add-

*President's address, read before the Vermont State Medical Society, Burlington, Oct. 12-13, 1905.

P. E. McSweeney, M. D.,
Retiring President Vermont State Medical Society.

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ed to these symptoms, there is a watery, bloody or ichorous discharge, with a hard tuberculated, crumbling condition of the cervix, the physician can feel pretty certain that the growth is malignant and a mocroscopical examination should be made to make the diagnosis positive.

The prognosis of cancer of the uterus in pregnant women is bad. According to statistics, over 50% die during pregnancy and the puerperium. The causes were peritonitis, rupture of the uterus and septic infection.

The consensus of opinion in the late works upon obstetrics and gynaecology is that the hemorrhages of cancer are more profuse during pregnancy, owing to a greater vascularity of the uterus. The progress of the disease becomes more rapid and the cancerous involvement shows a marked increase during the period of gestation and for weeks after. Consequently, the rational treatment, when the best interests of the patient are considered, is to interrupt the pregnancy and perform a complete hysterectomy as soon as the disease is discovered. If the disease is too far advanced and no operation can be performed upon the woman to save her life, the case may be allowed to go to term and a Caesarean section be performed in the interest of the child.

OVARIAN CYST.

An ovarian cyst is even a more rare complication in pregnancy that a carcinoma. In 17,832 births in the Berlin Clinic, an ovarian cyst was found only five times. The diagnosis is not difficult unless the tumor is behind the uterus and small. If the ovarian cyst is large and on one side of the uterus, it can be mapped out and a sulcus can be felt between the pregnant uterus and the tumor. Usually fluctuation can be demonstrated by palpation. Vaginal examination shows the pelvis to be empty and the cervix high up and the presenting part of the child above the superior strait. In the last month of pregnancy, the abdomen may be greatly distended. This abdominal tension may give rise to oedema, varicose veins, constipation and urinary troubles and render the patient unable to walk.

Treatment—If the cyst is discovered during pregnancy, an ovariotomy should be performed early, as statistics show a maternal mortality of only 11.3% during the first four months and a fetal mortality of 42.8% for the same time, but during the last five months, a maternal mortality of 16.6% and a fetal mortality of 50%.

In the 215 cases collected and reported by "Jetto," without an operation, there was a maternal mortality of 30% and a fetal mortality of 66%. In Heiberg's statistics of 271 cases, there was a maternal mortality of 25% and a fetal mortality of 66%. If the cyst is not discovered until the woman is in labor, we have the following alternatives: Caesarean section, puncture of the cyst through the vagina and delivery of the child in the natural way, delivery of the child by forceps or by version. The maternal death rate following puncture through the vagina with or without the use of forceps or by version, has been 50%, and more than 50% in cases upon which version was performed without puncture. The causes of this large maternal death rate are a twisted pedicle producing gangrene, rupture of the cyst, hemorrhage, shock, peritonitis and septic infection.

FIBROIDS.

Fibroid tumors large enough to interfere with pregnancy and labor, are as rare as cancer or ovarian tumors. Shatz found six cases in 16,000 labors. Fibroids develop most frequently at a time of life when the greatest fecundity is passed, viz.: after the thirty-fifth year. The diagnosis of a fibroid in a pregnant uterus is not difficult, except when it develops in the posterior wall. Even small tumors can be easily felt through the abdominal wall, their rounded form, their density and firm attachment to the uterus making the diagnosis certain. The condition may lead to several difficulties of diagnosis. The metrorrhagia from the presence of the tumor, masks the amenorrhea of gestation. The enlargement of the uterus occurs as a result of either condition. Time and the positive signs of pregnancy will clear up the diagnosis. The prognosis of labor complicated by a fibroid depends upon the size and seat of the tumor. Nauss found a maternal mortality of 54% in 225 cases and an infantile mortality of 57%. LeFours' statistics of 30 cases of fibroids are a maternal mortality of 55% and a fetal mortality of 77%. Peritonitis,

hemorrhage and septic infection were the causes of death.

Treatment.—If the fibroid is small and situated in the fundus of the uterus, the pregnancy may be allowed to go to term. If it is in the posterior wall of the neck or body of the uterus, an early interruption of pregnancy is indicated. If the patient is already in labor and the tumor low down, it should be pushed out of the pelvis if possible and if the conditions are favorable, the head forced into the pelvis and the delivery completed by forceps or version. If the child cannot be delivered by forceps or version, a Caesarean section must be performed.

REPORT OF CASES.

I will now report as briefly as possible, one case of cancer of the uterus, one of ovarian cyst and two cases of fibroid tumors, which have come under my observation during 19 years of obstetrical work.

Carcinoma.—Mrs. J. R. G., Bristol, Vt.. age 34, married two years, no children, admitted to Mary Fletcher Hospital Jan. 9, 1901, Dr. Wheeler's service. Hospital record gives following history.

About six months ago felt a small "bunch" in abdomen, which has greatly increased in size and is now within two inches of umbilicus, firm, but slightly movable, slightly nearer to right side. Regular in periods until seven months ago, irregular for three months with scanty flow, menstruated last about four months ago. Diagnosis, "Carcinoma of the uterus and pregnancy." Consultation of the hospital staff advised emptying the uterus. On Jan. 25, 1901, Dr. Wheeler dilated and curetted the uterus, considerable fluid escaped which was thought to be amniotic, uterus was packed with iodiform gauze, which was removed on second day. The patient had no pain, was kept in bed until Feb. 3 when she left the hospital. There was some doubt as to her being pregnant, as the dilatation and curettment gave no result. I was called to see her Feb. 3 at 7 p. m. She gave me the following history: Left the hospital in the morning and shopped all day without any discomfort. At 6 p. m. was taken with severe labor pains, which came on about every five minutes. Abdominal examination showed fundus one inch below umbilicus. Vaginal examination showed the pelvis to be filled with a hard cancerous tumor which bled easily and quite profusely. Cervix hard and nodular, high in vagina and did not dilate easily. The patient complained bitterly of the severe pain. She was delivered at 11 p. m. of a living fetus, at about fifth month of gestation, which lived for six hours. The cervix did not dilate easily, nor did it appear to soften. The fetus was forced out of the uterus and made quite a laceration which bled profusely for a short time. An uninterrupted recovery was made, and she returned home in two weeks. She died August, 1901. I have regretted that she did not let the pregnancy continue to term, and have a Caesarean section, as I advised at the consultation, it might have saved the life of the child. The mother was already doomed.

Ovarian Cyst.—On July 31, 1904, I was called to see Mrs. E. J. D. age 34, married one year, first confinement. She had had no trouble during pregnancy, no morning sickness, urine normal, in fact had enjoyed better health than ever before. She had been joked by her friends and told that she would have twins, because she was so large, began to have labor pains Friday at 3 a. m. I saw her an hour later. Inspection showed a very large abdomen with no apparent irregularity, palpation disclosed the position of the child to be with the occiput in a L. O. A. position with the back well in front, vaginal examination found the cervix high up with the os beginning to dilate and could feel the globular head above the superior strait. Pains came on at intervals of five minutes during the day Friday and at 3 p. m. found amniotic sack filling the vagina well. At time of this examination found back of child more toward axillary line and could map out body of child with a sulcus between it and another mass pointing to the right side, in which I could get fluctuation and which I decided to be an ovarian cyst. Bag of water ruptured at 7 p. m., could now feel head of child above superior strait, but without engaging, could also feel a soft mass which came down in the pelvic cavity and prevented the descent of the head, could not push it out of the way. At 10 p. m. patient being very tired, gave her one-fourth grain of morphia hypodermically which stopped all pain and she slept until 4 a. m. The pains again came on and continued all day Saturday, all Saturday night and until

Sunday at 2 p. m. Examination at this time showed the head to have become partly engaged at the superior strait, the tumor was still in the way. I explained the situation to the family and told them that if the child could not be delivered by forceps, we would have to have an operation. Drs. Wheeler, Hawley and Watkins were called in consultation. The patient was etherized and I applied the forceps at the superior strait, used axis traction rods and succeeded in about an hour in delivering her of a living female child, which weighed a trifle over nine pounds. After the delivery of the child, the ovarian tumor came up to the umbilicus. The patient made an uninterrupted recovery and was about in the usual length of time.

Fibroid.—Mrs. B. age 36, married, fourth pregnancy, has a fibroid which I discovered at last confinement, four years previous. She was advised to have the tumor removed, but refused. She came to the Mary Fletcher Hospital, May 25, 1904, to have a hysterectomy, but it was found that she was pregnant at second month. Consultation advised her to have uterus emptied and wait until well and return for operation. She refused advice and returned home. I saw her from time to time, she suffered from pressure symptoms, pain down thighs, constipation and urinary troubles. During first months of gestation, had quite severe hemorrhage at times, was taken with labor pains, Dec. 21, at 2 p. m., and was confined of a living child Dec. 22, at 10 a. m., being in labor 20 hours. There was nothing unusual in the labor, except the length of time. Owing to the presence of the tumor the head did not engage in the superior strait. I pushed up the tumor as much as possible and forced the head into the pelvis as much as possible. There was a profuse hemorrhage following the delivery of the placenta, which was controlled by pressure and ergot. She made an uninterrupted recovery and was caring for her family and sick husband at the end of three weeks. The tumor reached midway between the pubis and umbilicus.

Mrs. B. C., married, age 32, first pregnancy. I was called in consultation by Dr. Watkins to see patient who was in uremic convulsions. Had two convulsions before I arrived, followed by two more in the next hour. Inspection showed abdomen to be large, vaginal examination, cervix soft, not dilated, os high in vagina, head presentation which did not engage at superior strait. We decided to do a rapid dilatation and deliver as quickly as possible. Could feel bag of water through os, dilated for some minutes when sack ruptured and amniotic fluid escaped. After the escape of the water, the head seemed to recede and could be reached with difficulty. I could now feel a hard mass in the posterior wall of the uterus which would allow only two fingers to pass between it and the symphysis pubis. I said to Dr. Watkins, "We have a fibroid tumor, which will not allow the child to be delivered in the natural way." The mass filled the vagina so that a version or a craniotomy could not be performed. It was decided that the only chance of life was in abdominal section. The situation was explained to the husband and family and but little hope was given of saving either the life of the mother or child.

The patient was taken to the Mary Fletcher Hospital at 4 p. m. and assisted by Dr. Watkins and the hospital staff, I did a Caesarean section upon her. A median incision long enough to allow the uterus to be taken out, was made, a rubber tube passed around the neck of the uterus to control hemorrhage and an incision three and a half inches long made in the long axis of the uterus. The placenta was on the anterior wall and the incision passed through it. The hemorrhage was slight and well controlled by the rubber tube. The child was taken out through the opening, breech first. The placenta was quickly peeled from the wall of the uterus, uterine cavity flushed with hot sterile water and then closed by Sanger's method. On right ovary was a cyst, which was quickly removed and the uterus put back into the abdomen. The abdominal cavity was filled with hot sterile salt solution and closed in the usual way. The operation was completed in 45 minutes. In the posterior wall of the uterus was a nodular fibroid, the size of a cocoanut, which caused a thickening of the whole posterior wall. On the right ovary was a cyst as large as a goose egg, which proved upon macroscopical examination to be a dermoid

cyst.* This bicuspid tooth and mass of hair was found in the cyst (showing specimen). This cyst went into the pelvic cavity and prevented the descent of the child. I did not remove the uterus because the patient's condition was so bad that the physicians present advised against prolonging the operation. She had a convulsion during the night, did not regain consciousness, and died the following night of uremic coma. The child, a female, was alive and weighed 7⅛ lbs. So far as I know, she enjoys the distinction of being the second child delivered by Caesarean section, in Vermont, and the only one alive at the present time.

DISCUSSION.

Dr. H. H. Swift, Pittsford, Vt.—Our president has gone so fully over this subject that there seems little left for me to say. I had been in obstetrical practice for 30 years, more or less, without having seen a tumor interfere with pregnancy in my practice. I saw one where I was called in consultation. It was a fibroid as large as a cocoanut. This tumor was removed by abdominal section and the patient went along through full term without any trouble. Recently I have seen more tumors complicating pregnancy than I ever did in all my practice. I saw a woman a few months ago who was pregnant, having a fibroid one-half inch in diameter, near the cervix, and that is the only case I have ever seen that became pregnant with a fibroid tumor as large as that. I have seen a number of cases where they were anxious to have children, but the presence of fibroid growths in two instances of no very considerable size seemed to interfere and prevent conception. In these two cases that was the only inconvenience or trouble these tumors caused. These cases which Dr. McSweeney has spoken of are certainly very interesting and I was very glad indeed to listen to the paper.

Dr. J. F. Blanchard, Newport, Vt.—In an obstetrical experience covering 18 years, embracing about 1,000 cases, I have seen one case of cystic tumor complicating pregnancy. I sent this case to the Mary Fletcher Hospital, not suspecting pregnancy, for operation. The diagnosis of pregnancy was made and the patient was sent home. At about the eighth month the distention became so great that I aspirated the tumor through the abdominal wall with good results. The labor went to term, coming on a month later, and the woman was delivered without any complications whatever. She was subsequently turned over to the hospital and the remains of the tumor removed and she made an uninterrupted recovery.

*Cyst removed from Mrs. B. C., composed of ovarian tissue. Sac contains about 4 ounces sebaceous material and cholestrin crystals, inner surface of sac covered with growth of hair. Small area size of quarter of dollar showing recent marked necrosis. A bicupsid tooth growing from inner aspect of mass of cyst wall, and a central mass of hair size of an English walnut, which is firmly matted. Diagnosis, dermoid cyst, with beginning necrosis probably due to pressure.—Report by Dr. Morrison.

Dr. P. E. McSweeney (closing discussion).—There is not very much more to add, only one gentleman said that he had not seen many cases of tumors complicating pregnancy. I had practiced medicine 15 years before I saw a single case, and most of these cases I have spoken of I have seen within the last five years. The lesson the paper was intended to teach is, when we have a tumor of this kind, complicating pregnancy, it is well to make the diagnosis as early as possible, because if it is thought best to interrupt the pregnancy early, the chances of the patient are as good then as at any time. If the pregnancy goes to term and the tumor ruptures and causes hemorrhage, or if gangrene sets in during delivery, you will have to do a hurried abdominal section, and the chances are not as good for the patient as they would be if she was operated on before.

THE PHYSICIAN AS AN EDUCATOR.*

By M. L. Chandler, M. D., Barre, Vt.

By virtue of the degree conferred upon us, each and every one of us is or should be a teacher or leader or educator in medicine. The laity have a verb transitive, "to doctor," almost good English, as a synonym of mend or repair, more especially applicable if it is a poor job. They "doctor it up." Worse yet, if they adulterate milk or other products, they have no more popular term to express the deed, than "doctored." On the other hand I believe Doctors of Divinity and Doctors of Laws are not averse to the title, which is so much oftener conferred upon the medical man. They even seem rather pleased to be called "Doctor" with that unctious roll the friends use in addressing the recent recipient of an honorary degree.

To get at the subject. Whom shall the Doctor of Medicine teach, and what and when and how? An obvious duty is to teach properly the student of medicine. It is such a privilege and is so well done I shall have but little to say about it. I shall simply consider our duty as regards the laity. With the great majority, the best work can be done by the family physician with his own patients, one by one. I believe that much has been accomplished by different boards of health, commissions and similar organizations. The people look upon these as largely "political pulls" and what falls from their lips is no more regarded than stage thunder—a demonstration to help keep a good job. The worthy

*Vice-President's address, read at the meeting of the Vermont State Medical Society, Burlington, Oct. 12-13, 1905.

men in these positions cannot get the attention of the public that they deserve. The physician's advice is by most people valued, still a great many swallow the pills and pocket the advice.

The most important part of the subject we have to deal with is preventive medicine, pure water, food and the changes of habit, diet and climate for those already diseased. The physician can go much farther with his trustful clients in matters of hygiene than any health board or sanitary officer. He must instruct the majority of new mothers in proper methods of feeding, clothing, bathing and care of the baby. While he is doing this if he is a true educator he will have taught that mother not only the first principles of infant feeding, but also to take a new interest in the proper feeding of adults in health and sickness. He will have opened up a great field for future study. The last few years have seen many volumes written upon the subject, many theories, much legislation and a greatly interested public.

To the average man, proper food is only a matter of minor interest as compared with pure foods. The inspection of foods and a knowledge of the deceptions and adulterations have greatly interested the people. The duty of the profession is to see that while the people are engaged with the pure food problem, they get a greater interest in the much larger subject of proper feeding.

In regard to dress, we can get along more freely, it is an easier subject to understand, and besides there is no great pleasure in violating hygienic laws in this respect. Housing, ventilation and drainage receive many attentions from the officials in most cities and many small places, but in many instances a word from the family physician amounts to more than all the laws and officials combined.

Time was when sickness and disease were looked upon as dispensations of providence. The careful inquiries of any physician of today while taking up a case must open the eyes of many people to the natural and known causes of many diseases. Why not go a little farther and explain the connection between causes and symptoms of disease? We should never put off any one with wrong impressions, false or fanciful theories about disease. The educated man may ask many difficult questions, but he is very ready to adopt new methods. Object lessons are of much service to adults in learning sanitary science—in fact they are absolutely necessary. The inspection of food at our State laboratory has aroused much interest. We might have gone on talking about it for another generation, but the examination and reports on a very limited number of samples has accomplished wonders. It is very doubtful if the laboratory would have come into existence for many years had not one of our practical scientists grasped the situation and by giving his time and service for a few months demonstrated the worth of such an institution. The people of Vermont have no idea how much they owe that man.

The Tuberculosis Commission and the press are awakening in the people an interest in the causes, treatment and prevention of that all too common disease. The view the public gets is not yet quite clear. As far as results go we have not derived half the benefit we ought from the work done and the interest displayed. There is probably not one of us who has not had the sad experience of patients dropping the family physician and following some advertised nostrum. They become possessed of the idea that having the disease and having read up on it and having heard a lecture or two upon the subject that they know more about it than any ordinary physician. I have often had consumptives ask me if I have ever heard of this or that method; and I believe I am not blessed with more than the average number of tactless patients. These people—and every one of us have some—are sending sputum to the laboratories and getting reports upon it and trying nostrums. I have no serious fault to find with the Commission nor are they as much to blame as the periodicals—but the lesson has not been taught properly.

These matters can not be taken up by our patients collectively but each individual must be taught according to his needs. There is too much to learn, and errors are too easy, for the laity to acquire their knowledge by general principles.

Even the master minds in the profession must attain their position by long years of experience, and never all at once by any amount of hard work. Tuberculosis sanitariums can do much for these unfortunates. They learn in a few weeks how best to regulate their

habits of life, they learn the nursing necessary and the comparative value of hygienic measures as compared with drug treatment. They also learn to conduct themselves so as to be less of a menace to family and friends.

In regard to other measures of sanitation the public is profiting much more by the efforts of health boards and general practitioners than by their own efforts. What an example the Japanese army has been, in successful sanitation. Our late war shows the contrast between their well taught general staff and our inefficient one—ideal commanders, the men who thought they alone possessed all the knowledge necessary to conduct a successful campaign. The Japanese war will go down in history as won not by superior artillery or cavalry, not by stronger navy, not by superior arms or ammunition, but by the more intelligent use of an excellent medical department.

In private life we are called upon to do a great deal in the way of preventing disease. In cases of venereal disease the whole burden of quarantine measures is thrown upon the physician. How these, the most dangerous of infections compare with the sum total of all infectious diseases only the doctor knows. Army and Navy Medical reports, the only public statistics upon the subject, show more disabilities from venereal than any other disease and at times more than all others combined. It is safe to say it is the most common of infections among adults in private life, and who will say that gonorrhoea is not the most disastrous of all contagions in its effects upon the human race. We are not doing our full duty in keeping this disease within bounds. We should not pass over these cases lightly. We must make our male patients understand the serious nature of the disease. The innumerable innocent wives suffering from pelvic disease of gonorrheal origin, should make us more careful in our instructions to men suffering from this disorder. We ought to save many of these women from a life time of suffering.

Many chronic diseases are fully as amenable to hygienic measures as to medication. The educated and well-to-do citizen of today makes use of the doctor many times before he is sick. Many have a periodical examination to anticipate possible break downs. In our consultations we value the men who can convey to the patient or family in few words a correct view of the situation. Consultations are called oftener to satisfy the family, than to help the attendant.

Many men in the profession have served an apprenticeship at teaching in the public schools. Our patients are but children of a larger growth—sometimes only larger babies—and the experience gained in methods and management in schools has helped many. I believe that if the doctors had done their full duty years ago, remembering all the while that they were not teaching an exact science, preparing the public for changes of ideas, leading them to expect new things from the profession, the people would never have followed the false gods advertising in the papers. The nostrum venders spend millions every year advertising, educating public opinion to their own advantage. Nearly all newspapers and periodicals cater to them. Their advertising columns are open to any who may pay the price. Fake news matter and even editorials are sold by some. Nostrum advertising has furnished a large part of the income of the papers for years.

What have the men in the profession done to counteract this? They should have made some united effort to suppress this business. It has been more disastrous in loss of life than any epidemic the country ever saw. It has cost more in dollars wasted than any calamity that ever fell except perhaps the civil war. We have a duty here. Already a change is making in the situation. I believe the nostrum business has declined in the last five years. There are a few papers and magazines making a stand against them, and we should be free to help.

Now to go over the whole subject of educating the people along lines in which we are competent, we must bear in mind a few essentials. We should make some provision for encouraging the men who can and will in the proper spirit try to enlighten the general public, by means of magazine articles and papers of a popular nature and still correct. These do not need to teach the people that they can get along without us. In fact they will if frank and outspoken show how necessary is the service we render. We have never seen any good come from slander and libels or even hot competition among members of the profession. When people see us get to-

gether and agree two by two they think it is policy. When they see us come together peacefully in a large body to improve our own condition, they can respect us. When they see the united profession making a stand against quacks, nostrums, adulterations and contagion, they will honor us.

The surgeon of today doing his best work is the most exalted of all scientists in the eyes of the people. His work is looked upon as almost miraculous. The same man with equal qualifications as a physician can only be appreciated when the people are educated enough to know something of that with which he has to contend. And to conclude, if we do the things we ought to do, keep the respect and deserve the confidence of the people, we shall lose nothing financially, but will place the profession of medicine on a higher plane among scientists.

DISCUSSION.

Dr. W. C. Abbott, Chicago.—Thank you very much for the opportunity you give me for saying a word regarding Dr. Chandler's most excellent paper. I want to say to Dr. Chandler and to you gentlemen present, that I think no one subject that I have had the pleasure and honor of hearing discussed in the numerous medical sessions that I have visited this year, has been presented in as concise a manner to the medical profession as this great subject of the welfare of the profession and people, embodied in the closing paragraphs of this paper, which we have had the pleasure of listening to. There is no profession on earth, no business on earth, not excepting the clerical profession, that is doing so much against itself from a standpoint of commercialism and duty as this medical profession. The very best of all, the medical profession, the most able of all, is striving to better us in our ways of dress and living, to better our food supplies, to better everything. And, Mr. President and gentlemen, what does this mean? Putting it plainly it means, taking the bread and butter out of the doctors' mouths. We are sufficiently broad in our conception of privileges, to be glad and willing to do these things. It is not only no harm to us, to do these things, but it is just the thing to do. We exemplify the other matters and conditions of the principle which predominate us in our profession. The thing we must fight against is misrepresentation, misinformation, the quack doctor, the quack druggist who goes out with his lying representations to the very public we are trying to better, and goes to them for their very undoing. Dr. Chandler has brought this out very nicely in his paper in the closing paragraphs. It should sink deep into the hearts of all of us, for there is the great danger to us professionally and the people we love, and what we must do is to join together to fight it. The inestimable amount of money, life, and love and strength that is wickedly taken from the people by these fiends incarnate, who represent quack medicines, peruna, etc., all over the country, is something we know very little about. I want to be excused for saying one thing. The application of what is known as medical ethics, what has grown out of what we love as medical ethics, has been and is today, and is going to be, until we get a better idea of what it really means? The essayist has said some things we ought to do. We ought to approach this fiend of wickedness, of misrepresentations, and lying representations that is flooding this country, by rising to refute it, but medical ethics says we must not do it, because, as Dr. Chandler expressed it, some one will say: "Well, Dr. So and So is trying to get next to the people." How are you going to teach the people the truth in opposition to error when we may not properly do this thing? The medical societies, as a state, or as county societies, should appoint a publishers' committee, not in the name of an individual, but in the name of the society, who shall issue in the press of that locality the things the people ought to know. That is something that is perfectly proper, perfectly legitimate, and it hits the nail on the head and don't hurt anybody except to scorch the snake which we are after. This is the question that is before us. This is what is taking the dollars out of your pockets. This is our greatest menace. Now, my advice is, take the people into your confidence and tell them what the profession can do and will do. I say, take them into your confidence and above all things, brothers, brace up.

Dr. O. G. Stickney, Barre, Vt.—I was in hopes Dr. Chandler would speak of our relation to the younger generation. If we take more interest in the schoo's of our towns, we can accomplish a great deal of good. With regard to the long sessions, or solid session as it is called in our schools, it seems to me it is a wrong system of having the children in the schoolroom as long as they are kept now and having their meals at irregular hours. They are at the growing age and are forming habits of regularity or irregularity, and as their bodies are growing rapidly, they need their food regularly. I only offer this as a suggestion for thought. Let us do something for our schools. Take more interest in them and then we will be of more benefit to the public.

Dr. M. L. Chandler (in closing).—I don't think I care to say anything further on the subject.

While in the majority of fistulæ in ano healing will not occur until the fistulous tract is laid open, patients will sometimes object to any cutting, and here the following little procedure may prove of value: The fistulous tract is first irrigated with peroxide of hydrogen injected by means of a syringe with a long thin nozzle, and then dried with a slender, flexible cotton-wrapped probe, after which an application of carbolic acid or a strong nitrate of silver solution is made in the same manner. A very thin fistula crayon of iodoform is then introduced, which is held in position on the outside by a layer of cotton secured by means of collodion. Of course, this procedure is only useful in cases of uncomplicated blind external fistulæ, and should only be considered under the above circumstances.—*Int. Jour. of Surgery.*

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

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Burlington, Vt., October 25. 1905.

EDITORIAL.

With this number, the VERMONT MEDICAL MONTHLY passes into the hands of its new management. Under the regime of its founder and former editor it has completed an honorable existence of eleven years, during which period it has become recognized among the leaders of local medical journalism in the United States. The character and scope of the journal in the past is too well known to require comment. Its editor has endeavored to make it conform to the ethical standards maintained by the best members of the medical profession.

All these desirable journalistic qualities the new managers pledge themselves to continue and it is their ambition to make this the most practical and helpful medical journal published in the country. It will be the aim to publish a journal which will be especially adapted to the active practitioners in medicine, the men who have neither time nor opportunity to study out the technicalities of ultra-scientific literature, the men who want material to aid them in their daily round of endeavor to diagnose and treat the cases with which they come in contact. This means that first of all we shall have in mind the physicians who practice in the smaller towns and do our best to give them each month the material which they most desire in a readily accessible form.

To do this we need and must have the co-operation of those for whose benefit we desire to work. From time to time, as opportunity offers, it is our aim to add new departments and helpful features, and to gradually increase the size and scope of the journal. Many of these changes are already outlined and will be detailed in a later issue.

The journal is the official organ of the Vermont State Medical Society and the transactions of the society will be published in a special department. It is our desire to print the programs and reports of other societies, state and county, and secretaries will confer a great favor on the editor by forwarding such news as they desire published.

We invite correspondence and contributions from our subscribers and friends and suggestions as to how we may best fulfil our purpose. Such material as is available we shall use in our columns as original articles or in departments to be inaugurated. Other material we shall endeavor to correlate or use for our own guidance in keeping close watch on the desires and needs of our constituency.

The ninety-second annual meeting of the Vermont State Medical Society is a thing of the past but its effects we trust, will last for many a day yet. The influence of such a meeting is far reaching. It tends to produce an enthusiasm which makes us all better men. It goes far to overcome the little jealousies which are so apt to arise among professional neighbors and most important of all it gives the busy doctor a short relaxation from the most exacting of all professions. There is no other class of men who need more the di-

version of such a gathering and there is probably no class of men who enter more heartily into the spirit of the occasion. The doctor's social side is apt to be neglected at home. None of the men who sacrifice time and money to attend these meetings once a year are any the poorer in the long run. No doctor can afford to lose the good to be gotten from the meetings of county and state societies. Such conferences exert a powerful influence in broadening our horizon and making life the more worth living.

The new Board of License Censors has been about the most conspicuous organization in the state during the last few weeks and it is safe to say that its members have been subject to their full share of vituperation. The anomalous condition in which many of our oldest and most successful practitioners found themselves was extremely ludicrous to all except those most closely concerned. The board has taken the right course and no fair minded man can criticise it adversely—unless he has failed to pass the examination. When once the good doctors are all gathered into the legal fold quacks and charlatans can be much more easily disposed of. It all goes to emphasize the fact that no man should fail to familiarize himself with the laws which pertain to his particular vocation in life. The medical man is notoriously careless in such matters and if some of us have learned the lesson it is fifteen dollars well expended. It is safe to predict that the new licenses will be recorded without unnecessary delay.

REPRINTS.

WRITERS OF PAPERS desiring reprints must make such request in writing within one day of receipt of the number of the journal which contains the paper. After the type is taken down reprints can not be furnished.

NEWS AND PERSONAL ITEMS.

We desire to make this column of personal interest to all. Physicians are requested to send news items.

Dr. F. L. Gilbert of Grafton and Miss Elva Mack of Windham, Vt., were married Oct. 4.

According to the report in a local paper 18% of the pupils in school at Bellows Falls, Vt., were found to have defective vision, as a result of the investigation made according to the act of the legislature.

A largely attended meeting under the auspices of the Vermont State Tuberculosis Commission was held at Barton, Oct. 9, with addresses by Dr. S. E. Darling of Hardwick and Henry Ballard of Burlington.

The appointment of Dr. D. D. Grout to the superintendency of the Vermont Hospital is one which will meet the approval of all who know Dr. Grout. The trustees are to be congratulated in their choice of a man. We predict a successful future for Dr. Grout in his new field.

Dr. F. E. Steele of Montpelier has been appointed a member of the United States board of pension examiners, to fill the vacancy caused by the resignation of Dr. D. D. Grout of Waterbury. Dr. Steele practiced medicine in Stockbridge for 21 years and has been in practice in Montpelier since 1902.

The wedding of Dr. Watson Lovell Wasson and Miss Pearl Belle Randall, daughter of Hon. and Mrs. G. W. Randall, occurred at the home of the bride in Waterbury, Vt., Oct. 11. About 100 friends and relatives attended the ceremony, which was followed by a reception. Dr. Wasson is a graduate of the University of Vermont and holds the position of pathologist and second assistant physician at the State Hospital at Waterbury. His many friends in the medical profession wish him heartiest congratulations.

THE CITY OF BARRE has been suffering from a small sized typhoid epidemic. The cases came down within a short time of each other and were largely confined to the users of milk from one route. An inspection of

the farms supplying this milk failed however to disclose an original focus of infection and it is probable that the origin of these cases will remain something of a mystery. Most of the cases have been mild in character and the trouble seems to be past.

Dr. Holton's New Work.—The appointment of Dr. H. D. Holton on the Tuberculosis Commission to succeed Dr. D. D. Grout, retiring, will meet with the universal approval of the medical profession. Dr. Holton's wide experience as a general practitioner and as a sanitarian together with his thorough knowledge of local conditions in Vermont eminently fits him for the position.

The Proctor Hospital.—A very attractive little booklet of the Proctor Hospital has recently come to hand. This institution, an outgrowth of the district nurse system maintained by the Vermont Marble Company was opened at Proctor in 1896. The entire hospital and its equipment, and especially the operating room, is thoroughly up-to-date and embodies the latest approved devices in use in the newest hospitals in our large cities. It accommodates eighteen patients. A training school for nurses is maintained in connection with the hospital. During the year 1904, 351 patients were treated at the hospital and 208 in its out-patient department.

Plans for the Tuberculosis Sanitorium.—Dr. W. N. Bryant, secretary of the Vermont State Tuberculosis Commission, writes as follows: At present the whole matter remains with Senator Proctor's representatives, and is being looked after by F. C. Partridge, Esq., of Proctor, Vt. The plan, so far as it has been elaborated, is to eventually turn the whole matter over to a board of management consisting of perhaps 15 representative men in different parts of the state with provision that they may in their discretion, make it a state property when suitable guarantees are given for its support. Of course the endowment, though munificent and generous will not suffice to support the institution and even with the amount received from patients a deficit will exist. The amount charged patients will be a nominal sum, not burdensome to the individual but will in the aggregate amount to quite a part of the expense. The state institution at Rutland, Mass., charges the inmates $4.00 per week; the actual cost of maintenance is about $10.00 per week. The various details of management are to be worked out all in good time.

As to the site the opinion seems to prevail that the present tuberculosis commission have something to do with locating it. This is an error. That matter is entirely with the giver of the benefaction as it should be, although the commission are aiding in the matter of looking up appropriate sites. The state is being thoroughly canvassed, and aside from the work that the commission and the members of the family are doing, several men have been employed to go over the state looking at proposed sites. The matter will eventually be decided by some expert or practical sanatorian who will visit the places which have been examined by private parties and will decide which is, all things considered, the best. The work now being done is merely preliminary and the final decision will be made by practical men doing that kind of work. Many letters are received offering sites either for sale or in some cases gratuitously which shows a growing interest all over the state in the matter of tuberculosis and the sanatorium. These are given due consideration and are for the most part if at all promising, investigated. The idea is to get the *best* place, all things considered. Advices from practical workers along this line indicate that an institution should be situated near enough to some town to make the administration convenient and economical, as the mere matter of elevation is of much less importance than is usually supposed. It is hoped to get things fixed and materials collected so that the actual work may begin in the spring. This is in brief the plan as at present outlined by the Senator, who is anxious to see the project well under way.

Itching around the anus is not infrequently due to one or more small cutaneous tabs, the remnants of hemorrhoids of which the patient may have been unaware. An application of a nitrate of silver solution has sometimes a very beneficial action in relieving the pruritus, even when local anesthetics fail to act.—*Int. Jour. of Surgery.*

CURRENT MEDICAL LITERATURE.

MEDICAL RECORD,
October 7, 1905.

*1. The Choice of Method in Operating Upon Hypertrophied Prostate. Willey Meyer.
2. On the Importance of Differentiation in the Use of Electric Modalities. A. D. Rockwell.
3. Atony and Associated Pathological Condition of the Rectum and Colon with Mechanical Method of Treatment. Fenton B. Turk.
4. A Case of Combined Extra-Uterine and Intra-Uterine Pregnancy. H. T. Miller.
5. Asthenopia Due to Latent Hyperphoria. G. De Wayne Hallett.

1. PROSTATIC SURGERY.—The author discusses the three methods for the operative relief of prostatic obstruction, viz.: suprapubic and perineal prostatectomy and galvanocaustic perineal prostalectomy and galvanicaustic prostatotomy, and concludes that in every case where the condition of the patient warrants it, irrespective of age, prostatectomy should be performed. The individual case and preference of the operation should decide the method. If operation with the knife is refused then Bottini's operation is in order. Only if the operation is impossible are we justified in relegating the patient to the use of the catheter.

BOSTON MEDICAL AND SURGICAL JOURNAL,
October 5, 1905.

*1. Papilloma of Larynx in Children. J. Payson Clark.
2. Muscle Transference, with a report of two cases of Transference of a Branch of the Trapezius to a Paralyzed Deltoid. E. H. Bradford.
3. Vertigo of Aural Causation. Clarence John Blake.
4. The Meniere Symptom Complex. Walter A. Lacompte.
5. United Fracture of the Humerus Treated by the Bolt Method. Failure of Crown. Subsequent Successful Wiring. Harold W. Jones.

1. PAPILLOMA OF THE LARYNX IN CHILDREN.—The writer of the paper discusses the nature of papillomatous growths in the trachea, their occurrence and treatment and gives a number of histories of each. He summarizes as follows: Papilloma of the larynx in children is a very serious condition, the cause of which is unknown. The best method of treatment in all cases is tracheotomy and non-interference with the growth. If, under this treatment, it still persists after an age when the child can be treated as an adult it has probably lost its activity of reproduction and attempts at its removal may be made.

BOSTON MEDICAL AND SURGICAL JOURNAL,
October 12, 1905.

*1. On the Diagnosis of Cancer and Ulcer of the Stomach by the Use of Expert Methods of Procedure. Henry F. Hewes.
*2. A Brief Consideration of the Surgical Treatment of Diseases of the Stomach. John T. Bottomley.
3. Resection of the Nasal Septum. Leon E. White.

1. DIAGNOSIS OF CANCER AND ULCER OF THE STOMACH.—In the consideration of the subject the author draws largely upon his observations and researches in the last ten years, during which time he has made a study of normal stomachs by methods used as a standard in the study of pathological cases, together with a considerable number of cases of stomach disorder which came later to operation or autopsy. These last were practically all cases of ulcer or cancer. The objective findings determined by the use of special methods of stomach examinations which are of particular value in connection with the diagnosis of cancer and ulcer are: 1. The finding of the existence of chronic stasis in the stomach; 2. The finding of the evidence of bleeding in the stomach; 3. The finding of the presence or absence of free hydrochloric acid or of lactic acid in the contents; 4. The finding in the contents of fragments of cancer, pus, or numerous or special forms of low organism, or sarcinae, various bacteria or yeast fungi; 5. The findings in regard to size and location of the stomach as studied by inflation of the organ. With regard to the first of these findings he concludes stasis in any case of stomach disorder is in itself a very suggestive point in connection with the possibility of cancer or ulcer at the pylorus. When taken with other findings it frequently confirms the diagnosis of one or the other of these lesions. The absence of stasis merely gives an argument against the presence of either of these lesions at the pylorus. He determines the presence of stasis by examining the stomach contents after a twelve hour fast when it may be determined by the presence of (1) an abnormal food residue or (2) abnormal fermentation in the stomach. The stomach should contain no food at this time and the presence of a perceptable amount means insufficient drainage. Fermentation may be determined by (1) the presence of sarcinae (2) Lactic acid and yeast fungi. With regard to the gastric hemorrhage he concludes that we

have to decide between (1) some acute infection which can usually be ruled out by a study of the case, and (2) one of three chronic affections; cancer, ulcer or stenosing gastritis and the latter condition is usually secondary to one of the first two. If we can exclude all outside sources of the blood mouth, throat, blood injested with food, the presence of certain general diseases which may cause bleeding, as cirrhosis, purpuric disease, pernicious anaemia, gall stones jaundice, tubercular peritonitis the finding of blood in the stomach contents with stasis indicates cancer, ulcer or stenosing gastritis. If stasis is absent it always means cancer or ulcer. The method which he uses is Van Deen-Webber's modification of the guaiac test in which one part of the gastric juice acidulated with one third its bulk of glacial acetic acid is extracted with ether and mixed with equal parts of alcoholic guaiac and treated with a few drops of hydrogen peroxide. The presence of blood is indicated by the development of a blue color. The estimation of free hydrochloric acid is of some value in differentiating between ulcer and cancer. He concludes (1) an absence of HCL favors the latter, (2) the presence of HCL may go with either, though more common in ulcer, (3) excess of HCL favors ulcer Lactic acid is simply another symptom of stasis. It does not occur except where the secretion of HCL is deficient. The same may be said of the presence of sarcinae, yeast fungi, sarcinae and other bacteria. The findings of tissue fragments may make a diagnosis positive. Care must be taken in drawing conclusions from isolated cells. Determination of the size and shape of the stomach by dilation with air or fluid is of value in excluding dilitation or ptosis as possibly accounting for a twelve hour stasis. The author however thinks that this condition very rarely accounts for the lack of drainage.

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2. Surgical Treatment of Stomach Diseases.—The writer emphasizes the inefficiency of medical treatment to cure or even relieve cases of cancer or ulcer of the stomach, whereas surgery offers the means of relieving and possibly curing the cancer and in a majority of cases of effecting a speedy cure in cases of ulcer. The surgeon should be asked to see a gastric case: 1. Just as soon as there is even a suspicion of cancer; 2. In a case of supposed gastric ulcer just as soon as a reasonably long course has failed to give a very definite improvement, namely, after five to eight weeks; 3. Just as soon as there is a doubt in the diagnosis of any gastric case; 4. In all chronic gastric ulcers; 5. In all complications and sequelae of both acute and chronic gastric ulcers. The anatomy of the stomach is reviewed and the various operations for cancer and ulcer discussed. In closing the author gives some figures from his own cases.

Journal of the American Medical Association, *October 7, 1905.*

1. A Case of Systematic Blastomycosis, with Blastomyces in the Sputum. Daniel N. Eisendraft and Oliver S. Ormsby.
2. Penetrating Wounds of the Abdomen. Randolph Winslow.
3. Dentistry of To-morrow. H. P. Carlton.
4. What will probably be the Dental Educational Standard for the Coming Decade. Chas. S. Chittenden.
5. Recent Progress in Matters of Water Supply and Sewage Disposal. Geo. W. Fuller.
6. Pulmonary Tuberculosis as an Obstetrical Complication. Chas. Sumner Bacon.
*7. Lactic Acid in Gonorrhoea. Swithin Chandler.
8. Ataxia of Central Origin Appearing in Childhood. A. W. Fairbanks.
*9. Collodion as a Dressing After Internasal Operation as Preventive of Post-operative Hemorrhages. Kasper Pischel.
10. Test Types According to the Geometrical Progression of Dr. John Green. Chas. H. Williams.

7. Lactic Acid in Gonorrhea.—The writer emphasizes the difficulty in eradicating gonorrhea in the female when the cervix is infected, explaining this by the deep position and branching form of the glands of this region. The ordinary douche treatment fails entirely in destroying the gonococci infecting the deeper ramifications of these glands and even silver nitrate applications are often but palliative. The only procedure he maintains for a radical cure is to destroy the gland by injecting into the cervix some agent which will cause a slough. For this purpose he has had the best success with lactic acid. The method is as follows: First cleanse the vagina and cervix thoroughly with warm water and cotton soaked in solution of pyroligneous acid (4 oz. to 6 oz). Draw the cervix into view with an ordinary tenaculum. Then with a hypodermic syringe loaded with pure lactic acid make injections just beneath the membrane. Continue this over the whole cervix, leaving a few drops in each place.

This treatment the writer claims will effect a complete cure and in his experience with thirty-four cases there were no ill effects.

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9. Collodion in Intra Nasal Operations.—The advantages which the writer claims for his dressing over the firm packing of the nostril is that it allows the patient to breathe, even through the nostril operated upon, causes no discomfort, still protecting the wound against infection from air, and prevents secondary hemorrhage as effectively as the more nucomfortable dressing. The technique is as follows: After the first operation bleeding is stopped with adrenalin. The wound and surrounding tissue is cleansed and carefully wiped with compound tincture of benzoine and then covered with a piece of sterile gauze (about ½ cm). Especial care is taken to press this down close around the posterior end from which point bleeding is most apt to occur. Collodion is slowly dropped on the gauze beginning at the posterior end while hot or cold compressed air is blown into the nostril to promote evaporation. The patient is instructed to keep a little cotton in the entrance of the nose on the way home. The dressing should be removed after from four to six days. In doing this the nose should be cocainized and some hydrogen proxide applied to aid in loosening the dressing.

BOOK REVIEWS.

Practical Pediatrics.—A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzer, Editor of the "Centralblatt Fur Kinderheilkunde" and the "Excerpta Medica." Authorized Translation, with numerous Additions and Notes, by Herman B. Sheffield, M. D., Instructor in Diseases of Children, and Attending Pediatrist (O. P. D.) New York Post-Graduate Medical School and Hospital; Visiting Pediatrist to the Metropolitan Hospital and Dispensary, etc. Round Corners. Price, $3.00 net. F. A. Davis Pages xii-544. Crown Octavo. Flexible Cloth-Company, publishers, 1914-16 Cherry Street, Philadelphia.

An unusually valuable book for the general practitioner. The subject is covered in a practical succinct manner, and while not voluminous, it is thoroughly complete.

The numerous additions and notes by Dr. Sheffield add greatly to the book. We recommend it as one that the physician can add to his library with advantage.

Hand-book of the Anatomy and Diseases of the Eye and Ear.—For Students and Practitioners. By D. B. St. John Roosa, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Postgraduate Medical School; formerly President of the New York Academy of Medicine, etc., and A. Edward Davis, A. M., M. D., Professor of Diseases of the Eye in the New York Post-graduate Medical School; Fellow the New York Academy of Medicine. 300 pages, square, 12 mo. Price, Extra Cloth, $1.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

Dr. Roosa is so well known as one of the pioneer teachers of American surgery in its relation to diseases of the eye and ear, that his little hand book is sure to command attention. On examination it will be found a useful exponent of the subject and one that will meet general approbation.

For those interested in the subject, there is nothing more concise and comprehensive.

Practical Massage in Twenty Lessons.—By Hartvig Nissen, Instructor and Lecturer in Massage and Gymnastics at Harvard University Summer School; Director of Physical Training, Brookline Public Schools; Former Acting Director of Physical Training, Boston Public Schools; Former Instructor of Physical Training at Johns Hopkins University and Wellesley College; Former Director of the Swedish Health Institute, Washington, D. C., etc., etc. Author of "Swedish Movement and Massage Treatment," "A, B, C of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. With 46 Original Illustrations. 168 pages. 12mo. Price, Extra Cloth, $1.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

Physicians as a rule know very little about the technique of massage, although all agree that in selected cases it is the one treatment which the patient needs. The present work is a hand-book of practical massage, taking up the movements with detailed instruction and also going into the therapeutics. The author then considers the diseases to which this treatment is applicable and gives prescriptions for special cases. The book is a convenient and valuable one for the general practitioner.

Before discharging as cured a case of acute gonorrhea, even if there be no suspicion of posterior involvement, it is always well to make a rectal examination of the prostate, to press out any secretion present, and examine it microscopically. The gonococci often linger in the prostatic ducts even when they no longer give evidence of their presence in the urine.—*Int. Jour. of Surgery.*

SOCIETY MATTERS.

OFFICERS, COMMITTEES AND DELEGATES FOR 1905-1906.

OFFICERS.

President—M. L. Chandler, Barre.
Vice-President—E. S. Allbee, Bellows Falls.
Secretary—Geo. H. Gorham, Bellows Falls.
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COMMITTEES.

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M. L. Chandler, Geo. H. Gorham, H. C. Tinkham.

PUBLICATION.

Geo. H. Gorham, G. R. Anderson, C. H. Beecher.

LEGISLATION.

A. B. Bisbee, H. D. Holton, E. R. Campbell.

NECROLOGY.

M. H. Eddy, C. S. Scofield, C. W. Howard.

ANNIVERSARY CHAIRMAN.

W. L. Havens.

DELEGATES.

American Medical Association—C. B. Ross.

Massachusetts Medical Society—G. R. Anderson, F. L. Osgood, Saxtons River.

Rhode Island Medical Society—C. W. Phillips, F. W. Goodall.

New Hampshire Medical Society—E. J. Fish, F. T. Kidder.

Connecticut Medical Society—S. S. Eddy, W. L. Wasson.

Maine Medical Society—W. J. Aldrich, H. H. Lee.

New York Medical Association—W. N. Bryant, J. B. Wheeler.

White River Medical Society—C. W. Ray, C. H. Beecher.

Medical Department U. V. M.—C. W. Bartlett, M. F. McGuire.

Dartmouth Medical College—C. S. Caverly, W. F. Hazelton.

THE ANNUAL MEETING.

The 92nd annual session of the Vermont State Medical Society convened at the new medical college building at Burlington, Thursday and Friday, Oct. 12 and 13, the President, Dr. P. E. McSweeney of Burlington, presiding. Rev. George Y. Bliss opened the meeting with prayer, after which reports of the officers and delegates were read. The morning session closed with the presentation of obituaries of members deceased during the past year. On Thursday afternoon the society got down to the real work of the session, the reading and discussion of papers, and this feature was continued at the evening gathering and on Friday morning. On Thursday afternoon the House of Delegates went into executive session for the transaction of business connected with the general conduct of the society.

The annual banquet at the Van Ness House Thursday evening was a most enjoyable affair, about 125 physicians being present. President McSweeney introduced Dr. W. S. Nay of Underhill, who presided as anniversary chairman. Those who responded to toasts were: Dr. J. N. Jenne of Burlington, Dr. J. Henry Jackson of Barre, Rev. George Y. Bliss of Burlington, Dr. W. N. Bryant of Ludlow, Dr. H. D. Holton of Brattleboro, Dr. H. Edwin Lewis of Burlington, Dr. H. H. Swift of Pittsford, Dr. J. S. Hill of Bellows Falls, Dr. C. S. Caverly of Rutland and Dr. C. A. Pease of Burlington.

While the doctors were attending the various sessions, their wives were being entertained by the ladies of the reception committee, consisting of Mrs. P. E. McSweeney, Mrs. M. L. Chandler, Mrs. G. H. Gorham, Mrs. B. H. Stone, Mrs. J. H. Blodgett, Mrs. C. H. Beecher, and Mrs. D. C. Hawley. They were taken for a carriage drive around the city and on Thursday afternoon a reception was tendered them at the rooms of the Ethan Allen Club.

As a whole it was an exceptionally helpful and successful meeting. The papers were of unusually high grade and the discussions animated and educational in tone. The good fellowship which always prevails at these state meetings was perhaps more marked than usual, owing to the fact that being held in the new medical college building it was somewhat in the nature of a reunion where members of former classes met and rehearsed reminiscences of their studies and disadvantages, compared with the new and improved facilities enjoyed by those now on the high road to medical practice.

One feature, however, cannot be spoken of in superlative terms. The attendance at these annual meetings is not as large as it should be. If medical men realized the advantage of meeting with others of their profession, hearing and discussing the ideas advanced by those outside their usual circle of intimates, and the power of getting one up-to-date which such contact affords, more effort would be made to improve the opportunity which a gathering in one's own state offers. To be an able and broad-minded physician and to get out of the almost inevitable rut, the doctor must brush up against his fellows and come in contact with new minds. While the enthusiasm of the present meeting is still alive, it is not too early to bespeak an effort to make the next session at Barre a great success in point of numbers as well as in every other regard.

REGARDING DUES.

There is necessity of bringing to the attention of members of the state society the advantage of prompt payment of dues. It may not be generally understood that after three years' lapse in the required fee a member is dropped from the roll, thereby not only ceasing his connection with his state society, but affecting his standing in the American Medical Association. The finances of the society are so adjusted that only one dollar is required from each member, and as under the new arrangement this also includes a subscription to this journal, we feel justified in urging promptness in attending to this matter.

RUTLAND COUNTY MEETING.

The Rutland County Medical and Surgical Society held its quarterly meeting at the Berwick House, Rutland, Oct. 17, with 21 members present. Dr. C. F. Ball, the secretary *pro tem.*, was elected permanent secretary. The following papers were read: "Orthoform," Dr. J. M. Hamilton of Rutland; "Some Observations on the Clinicotherapy of Tuberculoral Constructor and Its Uses," Dr. W. W. Townsend sis," Dr. J. S. Horner of West Pawlet, discussion opened by Dr. C. S. Caverly of Rutland; "A Urethrial Constructor and Its Uses," Dr. W. W. Townsend of Rutland, discussion opened by Dr. C. W. Strobell of Rutland; "The Acute Diarrboeas of Children." Dr. J. F. Buffum of Wallingford, discussion opened by Dr. C. B. Ross of West Rutland. The next meeting will be held in Rutland the second Tuesday in January.

M. L. Chandler, M. D.,
President Vermont State Medical Society.

George H. Gorham, M. D.,
Secretary Vermont State Medical Society.

The Vermont Medical Monthly

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ORIGINAL ARTICLES.

A FEW OF THE MORE UNCOMMON ACUTE INFECTIONS WITH SURGICAL TREATMENT.*

By Samuel E. Maynard, M. D., Burlington, Vt.

Attending Surgeon Mary Fletcher Hospital; Consulting Surgeon Fanny Allen Hospital; Surgeon for Central Vermont Railroad and for Rutland Railroad.

Mr. President and Brother Practitioners, my only excuse for inflicting this paper upon you is the vivid recollections of my feelings when confronting these dreaded diseases, and if I may assist in some degree any of my friends to more readily get at a rational treatment for these troubles, should they be called upon to face them, thereby saving them the weary hours and days of search and worry which I went through, I shall feel amply repaid. It will not be the object of this paper to go any more into the details of pathology, etc., than is necessary to a good clinical understanding of the case, and as a basis for treatment.

ANTHRAX.

The first of the motley group to which I invite your attention is known as anthrax, contagious carbuncle, malignant pustule, wool sorters' disease, etc. It is a disease rare in this country, and in those countries which are afflicted with it a large proportion of those infected die. It is produced by the bacillus anthracis, which is aerobic, and found in the lesions and blood of infected animals and man. In the body of the living animal the bacillus multiplies by segmentation, never producing spores. Spores are produced in dead nutrient media and under special conditions such as the drying of dressings and at a certain temperature. At less than 12° C. growth does not take place, and above 43° C. is destroyed. According to Koch animals are infected by germinating spores attached to plants and grass in swamps and along river banks. The bacillus may also multiply in the superficial layers of the soil and in the manure deposit in pastures. Pigs, dogs, cats, white rats and Algerian sheep are immune. Goats, hedge hogs, mice, sparrows, some poultry, cows, horses, guinea pigs and sheep are readily infected.

Man may be infected by the dust from wool, etc., anthrax of the lungs resulting. If swallowed with the food—internal anthrax. The unbroken skin furnishes absolute protection against the bacilli or spores. Not so with the mucus membrane. Those most likely to be infected are farmers, butchers, tanners and upholsterers, the infection usually taking place through an abrasion on the hands or arms. It may, however, come from the bites of flies or other insects which have previously bitten infected living or dead animals. Either internal or pulmonary anthrax are absolutely fatal, and there is nothing in the line of surgery which can be done for them, consequently, we will invite your attention to the local forms.

Anthrax of the surface is divided into anthrax pustule and anthrax oedema. The microbe multiplies, and if it does not meet sufficient resistance, enters the blood channels, thus producing general infection which always proves fatal. Anthrax pustule usually occurs on the parts not covered by clothing. The pustule is at first a small red point resembling a flea bite, in the middle of which a vesicle appears containing first serum, and later bloody fluid. This little point itches and burns severely. The skin around is raised. Inflammation increases, the sore becomes painful, tender on pressure, and exceedingly firm to the touch. The vesicle dries down, becomes red or blackish gray in color, showing gangrenous condition. The epidermis is thrown off, and a sloughing area from the size of a pea to that of a half dollar is exposed. This slough is finally thrown off, and although general in-

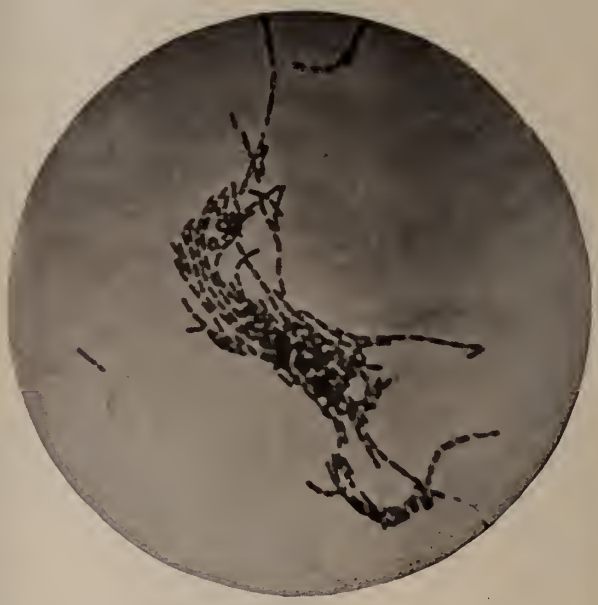
*Read at the meeting of the Vermont State Medical Society, Burlington, Oct. 12-13, 1905.

fection may occur, these cases usually recover if properly treated.

Anthrax oedema follows infection in such parts as have few blood vessels, but an abundance of loose connective tissue, as the forearm, neck and eyelids. The swelling becomes flat and hard, spreads rapidly and vesication, exfoliation and gangrene may take place. There is great danger to life in this form, as there is no walling off, although some of the very mildest cases may result in spontaneous cure. Furuncle and carbuncle may be distinguished from anthrax by the fact that they are conical from the start and the point sloughs, whereas anthrax usually is a much more severe inflammatory condition, and starts as a flea bite with a bleb in the center, spreading from this center. Anthrax oedema may be differentiated from erysipelas by the fact that the skin is but slightly discolored in anthrax and there is not the sharp line of demarkation which is present in erysipelas. From malignant oedema or diffuse suppuration, the microscope is the best method of differentiation, as the anthrax bacillus is easily found. Inoculation may also be employed in doubtful cases.

Prognosis: Internal anthrax is always fatal. Anthrax pustule usually recovers under proper treatment. Anthrax oedema is very serious but may recover spontaneously. Both are more serious on the face, neck and body than on the extremities. The harder and more circumscribed the lesion, the less the danger. The greater the area involved and the more diffuse the disease, the greater the danger from general infection, the occurrence of which is shown by symptoms of progressive sepsis. The rapidly multiplying bacilli elaborates anthracin and produces the septic symptoms, which are fever, cough, rapid respiration, feeble and rapid pulse, diarrhœa and delirium. The treatment will be detailed under following reported case. By the most thorough treatment, Koranyi saved only 13 out of 142 cases, so we can see the extreme fatality of the disease.

Mr. F. G., farmer, residence Burlington, age 29, family history good and in rugged health. Aug. 23, 1904, patient noticed small red pimple or bleb on the anterior surface of each fore-arm which itched and burned. Next morning there was some swelling of arms and sores became painful so that patient required morphine that night. Aug. 25th came to Mary Fletcher Hospital. There was a hard well defined tumor about the size of a twenty-five-cent piece, of blackish gray color in the center, shading to blue and then to a deep red away from the center, all surrounded by an area of much swollen, reddened and extremely firm swelling. The left arm was swollen to body to three times its natural size, and onto front of chest slightly. The axillary glands were much enlarged on left side. The right arm was about twice its usual size nearly to shoulder with axillary glandular involvement. Both arms were covered with vesicles or blebs filled with a yellowish serum. Microscopical examination of the contents of these blebs



ANTHRAX BACILLI FROM AGAR-AGAR CULTURE.
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showed the anthrax bacillus in large numbers, as did tissue from the pustules. A pustule cut across, below the area of actual necrosis, presented a mottled appearance with black spots the size of a large pin head, with lighter tissue running in lines between. We were warranted in making a diagnosis of anthrax pustule of each forearm with anthrax oedema of both upper extremities, and a somewhat unusual condition of axillary glandular involvement on both sides. His temperature ran from 101° to 104° and heart remained fairly good. Some epigastric pain and nausea. Later more of these and some diarrhœa.

Patient was isolated and ward disinfected. Under an anaesthetic the pustules were excised and cauterized, and with the cautery multiple incisions were made in hands, fore-arms and left upper arm well into cellular tissue, which allowed the serum to drain freely. All were kept under a wet bichloride dressing. In addition, subcutaneous injections of 5% carbolic acid solution were made ahead of advancing oedema endeavoring to stem the tide by our thin line of subcutaneous tissue saturated with 5% carbolic solution. This solution was injected among the axillary glands also. We gave large doses, keeping close watch of the urine. Four hypodermic syringefuls were given every six hours in each arm for the first day, and two every six hours for three days more. The first day patient receiving 400 minims or 20 minims of pure carbolic acid and for each succeeding three days 200 minims. On fourth day urine became cloudy and as patient seemed much better in every way injections were discontinued. During all this time patient was given all the nourishment he would take and as much stimulant as he needed. The glandular involvement was the slowest to yield and at present, 1905, there are still lumps in each axilla.

The treatment which from this single case and from records of many others seems best is: First, isolate your patient. We know that flies carry the disease and so keep them killed, and cover patient with mosquito netting. Burn all dressings as soon as soiled as we know that the germ sporulates as soon as it begins to dry. The germs are quite easily killed but the spores are almost indestructible. Remember that the blood is infectious. Second, feed your patient and stimulate as needed. Excise the pustules well into healthy tissue and disinfect. If there is oedema, multiple incision and wet dressings. One of the best things to use to excise the pustule and to make the incisions is the Pacquelin cautery at a red heat. In this way there are no blood vessels left open, so that the patient cannot receive a general infection which means death. If the cautery is not at hand, incise and use strong carbolic solution or pure carbolic followed by alcohol. Use subcutaneous injections of 5% carbolic acid solution ahead of or between the lesion and the heart in point of direction of circulation, to try to beat back the invasion ever making for the internal vital organs. Animals inoculated with weak cultures properly prepared of the anthrax bacillus are being rendered immune. The diplococcus of pneumonia, streptococcus of erysipelas, staphylococcus pyogenes aures and the bacillus prodigosus are all antagonistic, and if enough are injected will kill the bacillus of anthrax. These facts we hope will open a new road to success in treatment.

TETANUS.

The next disease to which I wish to call your attention is tetanus, a wound infectious disease in which the toxines of the microbes act upon the central nervous system, causing spasms and rigidity of definite muscular groups. The tetanus bacilli is anaerobic and at the body temperature will sporulate in thirty hours. It requires 100° C. for five minutes in a sterilizer to kill it. We find it in soil, in secretions of wounds infected by it, and in the nerves leading from these wounds to the spinal cord. Being harmless in the blood current there is no metastasis, but the blood of a tetantic patient, the wound secretion, and spinal fluid are infectious and in soiled dressings, etc., retain their virulence for at least four months, that from the human subject more so than in animals. The microbes will grow only when the atmospheric air is excluded. There is little doubt but that the toxines, which are four in number, are the direct cause of the convulsions. The incubation period of tetanus varies from twenty-four hours to several weeks. Acute cases may die in twenty-four hours while some of the chronic forms have lived six or seven years. In idiopathic tetanus, we are simply unable to find the wound of entrance, as after erysipelas or frost bite.

Punctured and lacerated wounds of the hands and feet are the most apt to be followed by tetanus. All cases begin gradually, often with a feeling of chilliness, and slowly the muscles of the jaw become stiffened, closely followed in acute cases by the muscles of deglutition and those of the neck and the extensors of the spine. Perhaps within twenty-four hours the intercostal muscles become involved, when there is marked cyanosis, the pulse becoming rapid and feeble, and finally a spasm of the diaphragm may cause death. Rarely does the patient survive the

third diaphragmatic spasm. The temperature in acute cases is considerably elevated. The chronic differs in that there is only a slight rise in temperature, the symptoms coming on gradually, many of the cases recovering in from six to ten weeks. There are cases in which only the muscles of the jaw are involved and these are simple except in infants, who usually die.

Head tetanus or tetanus hydrophobicus which may follow injury of the face is accompanied by paralysis of the facial nerve on the injured side, with trismus, and when any attempt is made to swallow, the muscles of deglutition are thrown into spasm, thus resembling hydrophobia. These cases recover unless the disease becomes general. Differentiation of tetanus from other diseases is comparatively easy and will not be spoken of in this paper. The more violent the onset, and the more rapid the progress of the disease, the worse is the prognosis, and if a patient lives two weeks and is in good condition, he is apt to recover.

Of the Calcutta list of 280 cases, 75% died, which is about the average. The only constant lesion which can be found at autopsy is a hyperaemia of the medulla oblongata and spinal cord. The toxines must act first as stimuli, causing increased blood supply; later producing irritation and congestion which is followed by degeneration of some of the nerve elements.

Treatment will be given in report of following case:

Mr. F. B., age 29, farmer, American, residence Bethel. Admitted to the Mary Fletcher Hospital, Aug. 30, 1904. Aug. 19th, while fixing barn-yard gate got sliver in knuckle of finger on right hand. Thought he got it all out but wound became tender and sore and so put on a bread and milk poultice which seemed to draw the soreness out and wound appeared healed. Aug. 28th noticed slight stiffness of jaws. Also some rigidity of abdominal muscles and soreness and stiffness in muscles of back. At time of entering hospital could open jaws about one inch. Has had no spasms, but feels worse all the time, and progress has been rapid during last twenty-four hours. Temperature about one degree sub-normal.

Aug. 30th, under ethyl chloride, did lumbar puncture between 3rd and 4th lumbar vertebrae and withdrew 10 c. c. of spinal fluid and threw in 10 c. c. of carefully warmed tetanus antitoxin. Under cocaine the wound where sliver entered was opened and one-half inch of sliver was found floating in a few drops of dark brownish pus. This wound was thoroughly disinfected and left open. Patient seemed to improve slightly.

Sept. 1st as patient seemed to be getting worse another 10 c. c. of spinal fluid was withdrawn, and 10 c. c. of antitoxin thrown in. This was followed by 20c. c. of antitoxin every six hours .in subcutaneous tissues until patient showed marked signs of improvement. In all 720 c. c. were given. The only unpleasant result was a fine crop of urticaria all over the body. In addition to the antitoxin three to five grains of carbolic acid was injected subcutaneously each day until urine became slightly cloudy. At first had to have some morphine to relieve pain in muscles. Patient was under treatment about sixteen days and returned home Sept. 15, 1905, cured.

Treatment suggested: First prophylactic. Every doubtful wound, especially those liable to be infected with earth contaminated by tetanus germs, should be converted into a thoroughly open wound, foreign bodies searched for and removed, wound carefully cleansed with antiseptics, especially hydrogen peroxide, and so dressed that air may gain access, as the germ will not grow unless atmospheric air is excluded. If we have good reasons to expect tetanus, an immunizing dose of antitoxin should be given as it has more power to prevent the disease than to cure it after it is once started. The antitoxin treatment of the disease proper should be begun with the earliest symptoms, as the longer it is delayed the larger the dose required, and the less the effect obtained, while if given early it will prevent nerve degeneration. The toxines travel through the blood, or otherwise, until they reach the central nervous system and when they have accumulated there enough they make trouble. If we have not used our antitoxin early, for some reason or other, and the symptoms are becoming rapidly worse, it seems that we may gain considerable time by injecting the antitoxin directly into the spinal canal where it can neutralize the toxine at once before more damage has been done, rather than wait for the slow subcutaneous method. Carbolic injections especially along the course of nerves leading from point of injury has pro-

duced good results. Ascoli cites 35 cases treated in this way with only one death. Begin with three grains daily and increase rapidly to six or eight grains, watching the urine.

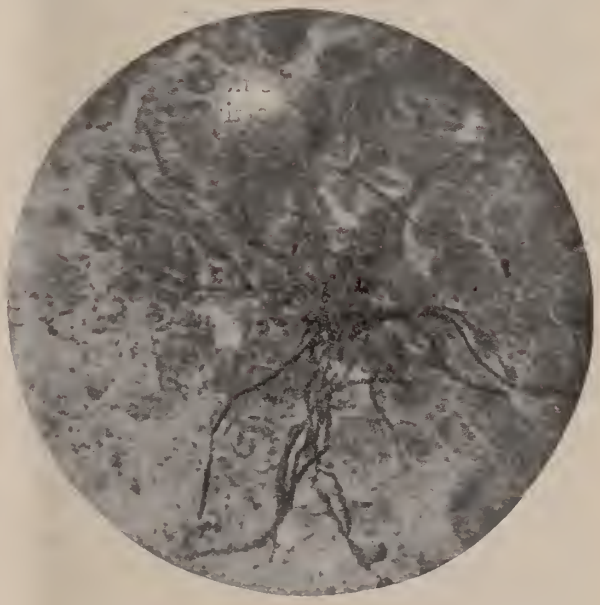
My case, which I have reported, although he might have recovered otherwise, was certainely getting worse very fast and the treatment not only checked the disease, but cured him in a much shorter time than cases of his class usually recover, which is six to eight weeks; he was practically well in ten days. In the more acute cases bromide and chloral are of great benefit. Morphine relieves pain, and with chloroform is about all we can do for the most acute cases.

ACTINOMYCOSIS.

The last infection to which I shall refer is actinomycosis hominis which is a form of chronic inflammation caused by the presence of the actinomyces or ray-fungus. It is frequently mistaken for and resembles, before it breaks down, a round cell sarcoma. Even with the microscope it it difficult to differentiate. The presence of ray-fungus in the granulating tissue or in the yellowish bodies, found in pus and discernible to the naked eye, settles the diagnosis. There is a large family of this ray-fungus, many varieties of which are not pathogenic. Many are saphrophytic, found in the air, water and vegetable matter, especially chaff of rye, barley and oats. These fungi, which I will not describe, are developed from small round spores. Most all are aerobic and facultatively anaerobic. Water or weak sodium chloride solution softens it, but it resists acids, ether and chloroform. It exists in calcarous condition in the muscles of pig's meat and is exceedingly dangerous unless well cooked. It may also be derived from some vegetables and grains. Entrance into the system may be gained through carious teeth, thereby diseasing jaws, or often through the tonsils.

It is non-pyogenic bacterium, producing chronic inflammation and transforming mature tissue, whether it be muscles, cartilage or bone, into embryonic tissue, this granulating tissue resembling the round cell sarcoma. It is disseminated in the body by the breaking down of blood vessels and so forms metastasis which are the same as the original growth. Until suppuration occurs, which is due to secondary infection, there is no glandular involvement and the earlier this occurs the more rapid the spread of the disease, while the absence of suppuration shows comparative benignity.

The disease involves the cutaneous surface, alimentary canal and respiratory tracts, but is most common on the face and hands. It may appear as a red spot, increasing in size and thickness, flatten down and disappear, being followed by more lumps coming near it, or it may resemble syphilis or tuberculosis, having pockets of pus, and again it assumes the anthracoid form with numerous small openings but no pockets. The distinguishing



ACTINOMYCES FROM LIVER.
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feature is always the presence of maculae from the size of a pin head to that of a bean. In rare cases it may resemble acute phlegmanous inflammation. General infection is rare and lymphatic glands are never involved except by secondary infection. Actinomycosis spreads locally and by metastosis. Redness is present when the skin is involved, and if spreading rapidly there may be some oedema. Pain and tenderness is seldom severe. When actinomycosis affects the upper jaw it is more serious, as it soon involves the brain, while in the lower jaw it progresses very slowly until it reaches the soft parts. Whether taken in with the air, food or water, it tends to produce internal troubles which untimately result in abscesses, the pus of which, whether

coughed up or discharged through the bowel, contains the characteristic bodies and the organisms. Patients often live for years with these troubles. This disease may secondarily involve the brain, when the symptoms are those of brain tumor.

It is sometimes difficult to tell an actinomycosis from syphilis, tuberculosis or sarcoma. Microscopical examination will usually settle the question in any of these three. Syphilis more rapidly yields to iodide of potassium. Sarcoma starts in skin or mucus membrane first, whereas an actinomycosis involves these structures secondarily. In tuberculosis the lymphatics are very much involved, while they are free from trouble in actinomycosis. There is never a spontaneous cure in this disease and it is much more dangerous than tuberculosis.

Actinomycosis of the internal organs is always fatal, and more rapidly so when the case has gone on to abcesses. When recognized early and favorably located for complete extipation, a cure is always certain as metastasis in this stage is rare. The prognosis, wherever the disease is located, is much better than formerly, as we now know that iodide of potassium has a curative effect. It may also be used as a wash locally and a 2% solution injected subcutaneously or given in 15% solution by cataphoresis. Nitrate of silver also has a very beneficial effect when applied locally. If gotten before suppuration occurs, total extipation with thorough cauterizing is the best treatment.

I have not had a case of genuine actinomycosis, but one that was infected by one of the members of this numerous family. This case had a small hard growth on one hand which remained about the same for a considerable time when evidently a secondary infection took place, red streaks following the lymphatics of the fore-arm with later axillary involvement. The small growth was burned out with the cautery and 5% carbolic acid solution used subcutaneously along the line of lymphatics involved. This redness soon disappeared. Some of the tissue from the tumor showed bacteria resembling the actinomycosis. Carbolic acid seemed to do little good in the axilla, but large doses of iodide of potassium caused the swellings there to disappear. Mercurial ointment was also faithfully used but with slight effect. Patient now I believe is perfectly well.

DISCUSSION.

Dr. M. R. Crain, Rutland, Vt.—I wish to say just a word with regard to tetanus and the injection of cocaine into the spinal canal. I saw a case with quite well marked symptoms of tetanus. Cocaine was injected pretty freely into the spinal canal, and the effect was a distinct subsidence of the contraction of the muscles. The patient eventually recovered. It is surprising how much the system will bear. I believe that carbolic acid acts as an antitoxin and is much more reliable than any serum which I have seen tried. If given boldly as early as possible, so that the system may be quickly and completely saturated, its antiseptic influence will be manifest on the blood, and I believe there is great hope of this agent becoming a great boon to humanity in the cure of this distressing and alarming malady.

Dr. Lyman Allen, Burlington, Vt.—With regard to tetanus and the use of the tetanus antitoxin as a prophylactic measure, judging from the fact that tetanus antitoxin has a prophylactic power, we should use tetanus antitoxin in all gunpowder accidents, especially where there is any question of the blowing in of powder under the skin. The injection of antitoxin is very simple and very inexpensive—say $3 for it—and it is many hundred thousand times more valuable given early as a prophylactic measure than it is late. Another point is the question of food. It is a rapidly wasting disease and we should use forced feeding. The patient can be fed by the rectum if the spasms prevent feeding by the mouth.

Dr. R. E. Welch, Franklin, Vt.—In connection with this subject, I would like to relate a case of a woman who stepped upon a nail and it penetrated her foot. She suffered a great deal of pain and in a few days after the accident I was called and she was in convulsions. I administered chloroform and examined the wound. I probed and opened up the wound and removed a small piece of stocking and bone. I administered cocaine very freely and am sure that that treatment saved this woman's life. My advice is try it with this disease and you will be proud of your work.

Dr. W. W. Townsend, Rutland, Vt.—I only wish to say that I have had good results from the use of a solution of chloride of lime, acetic acid and water. I wish some of you would try this solution the first time you have a chance.

Dr. G. G. Marshall, Wallingford, Vt.—What I have to say is with regard to the use of chloride of lime and acetic acid. I had read in the various medical journals the laboratory reports that the spores of anthrax are killed in from five to ten minutes after the application of this solution. The subject matter impressed me greatly, so I marked the articles and laid them aside for further reference. The first case of this kind I had to attend to had been running two or three weeks. He had been using carbolic acid with no effect whatever. I just used this solution and the pain went out the first night and in a week's time he was all right, and I have used it in my general cases and in my obstetrical work since and find it a very valuable application for aseptic infections.

Dr. S. E. Maynard (closing discussion)—I have nothing further to add. I think the injection of cocaine would be excellent in conjunction with antitoxin. I wish more of you would use carbolic solution.

SOME OBSERVATIONS ON THE CLIMATIC TREATMENT OF TUBERCULOSIS.

By J. S. Horner, M. D., West Pawlet, Vt.

There has been much said and written on the climatic treatment of tuberculosis, but of late it has been receiving extra attention. The problem to be settled seems to be not so much as to the value of climato-therapy in certain cases of consumption, but the proper method of its application. In considering this question the profession has been handicapped, and possibly to some extent biased, by a mass of literature, the influence of which has been most pernicious, consisting of pamphlets, books, articles in medical journals, and even papers read at medical meetings, which are inspired, disseminated, or written by persons directly or indirectly pecuniarily interested in the prosperity or booming of some particular locality. It is sometimes difficult to pick out the honest from the dishonest. It is not our purpose however to attack the claim of any particular health resort. When we have discarded the manifestly biased literature on this subject we find that there are two principal factors which enter into the determination by the physician of a proper climate for a certain tuberculous patient: namely, the germ, and the disease, (its location, severity, and tendency to hemorrhage, etc.) There is another method which is considered here to be a more valuable one, and that is the patient himself, without regard to either the germ or the disease. There are no statistics or any reliable evidence whatever tending to a settlement of this question; therefore we must believe in, and practice that one which is the most reasonable. In the absence of positive evidence one must believe that which best appeals to his reason.

We will consider first, the method of choosing a health resort on account of the germ. There are claims made by numerous places in the world that they have a climate which on account of its altitude, temperature, humidity, etc., is inimical to the propagation of tubercle bacilli, that the atmosphere is not only without germs of tuberculosis, but germicidal; that tuberculosis is absolutely unknown among the native population. These claims are without foundation in fact. Tuberculosis is known and recognized by all who take pains to know, as a thoroughly cosmopolitan disease, flourishing in all climes, at all altitudes, and in all temperatures, and under all conditions of the atmosphere, among all peoples, black or white, red or yellow, rich or poor, and showing no favoritism. Its death rate is the same the world over except where influenced by the character of the sanitary, and hygienic surroundings and the medical supervision. In absolutely the same medium the germ thrives in the same manner no matter what the surroundings, and it is obvious that in the human body the germ is always at the same temperature, pressure and so forth. It seems therefore unreasonable to send a patient to any particular health resort, expecting relief, because of the claims of such a place to any particular unfriendliness of its climate to the germ of tuberculosis.

By far the greater number of phthisio-therapists, judging from their writings, determine the climate from the disease, as for instance, patients with a lesion at the apex of the lung and a little temperature are recommended to seek high altitudes and sometimes sea voyages, but if the fever be higher treat them at home for a while. If the disease is extensive, affecting a considerable portion of one or both lungs with practically no fever, either slight elevations or warm seaside resorts are selected; if there is much fever, nearby health resorts are prescribed; and many more rules along the same line. These sound well and scientific, but do not stand the slightest analysis even of their strongest advocates, for while they tell us to select such and such a climate for a certain stage of tuberculosis with certain manifestations, they will in the next breath or paragraph say, that of two patients at exactly the same stage, the disease in the same location and other manifestations similar, one will do well in southern California and the other, while rapidly growing worse there will do well in Colorado at a high altitude; one will be benefited by sea voyages, the other perhaps by some inland resorts; one in a cold climate the other in a warm and others not helped by any change. In other words, the method of selecting climates or resorts from the stage, location, or any of the other various manifestations of the disease, such as hemor-

rhage or fever, etc., is erroneous, unscientific, and prejudicial to the successful management of tuberculosis.

In order to decide on the proper application of climato-therapy in any given case of tuberculosis, I regard as essential the two following propositions: First, that climate is the best, which will most conduce to the general well being of the patient and enable him to offer the greatest resistance to the disease; second, all life, whether so-called vegetable or animal, thrives best in that climate to which it is accustomed through its ancestry—the lion, monkey, and all tropical animals, as well as the banana or cocoanut, would thrive but badly in the arctic circle, as would the polar bear or musk-ox in the Isthmus of Panama. Plants and animals that naturally grow in warm, marshy, low places do not do well in cold climates at a high altitude—the esquimos would have a hard time in the tropics, and the black man of the tropics would not be at his best in the land of perpetual ice.

In other words, we should send the patient with tuberculosis to, or keep him in, that climate in which we think he would thrive the best if he did not have tuberculosis; cases too far advanced excepted. There are also other exceptions such as lack of money, etc. In 90% of the cases we will find that the proper place for the patient is home, or if sanitary or hygienic surroundings are not suitable, then in some sanitorium or health resort in the vicinity of his home. If a patient is especially susceptible to the cold weather, has had a cough for a few winters, and is taken with or threatened with tuberculosis, his best place is probably home in the summer and a warm resort in the winter. As tropical roses can be raised in the northern climates with suitable supervision and protection, so can men live under adverse climatic conditions, but both do their best in their own climate.

Probably the climatic treatment has hastened, and the ignorant application of the open air treatment is hastening the death of many patients who otherwise might be cured. That this is so, is the fault of the profession only insomuch as we have unduly lauded these methods at the expense of proper medical supervision. The laity are so unduly impressed with the importance of a change of climate or the application of such fads as the open air treatment, that they are apt to think that medical supervision is a matter of secondary or very little importance when it really is most essential. Climato-therapy carried on by the patient himself without proper medical care is the source of much harm. The open air treatment, or any other treatment, should not be carried on by the patient himself, but under the care and guidance of a competent physician. Cleanliness, with good fresh air, good food, and proper medical supervision, probably cure a very large per cent of the cases of consumption.

The open air treatment as at present carried out in many places is most harmful, many patients improving not because of it, but in spite of it. The radical method of operating on every case of appendicitis immediately on diagnosis is not the one now universally recognized as the best and proper one, nevertheless its advocates did more toward the solution of the proper management of appendicitis than all the rest of the profession put together. The present radical application of the open air treatment of tuberculosis is not the best one, but its advocates have done much to show the profession the right way, since the open air treatment shows what fresh air can do under adverse circumstances. Good fresh air can be had as well in a house properly heated and ventilated as in a tent or on a veranda. After the bacillus of tuberculosis gets a lodgement in the human body, fresh or foul air, cleanliness or uncleanliness, a high or low temperature, wet or dry air, high or low altitudes, any or all of them, have not the slightest effect upon it; but the patient himself is affected by any or all of them. As so few persons are able financially to take advantage of a change of climate it is a welcome fact that it is really seldom necessary. The fresh air treatment is applicable to all cases except the very poor; and for those, suitable sanatoria should be established at the public expense.

The points I wish to emphasize are:

1. A change of climate is seldom necessary.
2. The individual and not the disease should be treated.
3. Fresh air is a desideratum, and can frequently be had as well indoor as out.
4. The application of the climatic treatment themselves, which is common in persons who think they are suffering from tuberculosis, should be discouraged.

In closing this paper, I wish to say that we cannot too thoroughly appreciate the recent gift of Senator Proctor to the people of Vermont, as a long step in the right direction in the solution of the tuberculosis problem.

VERMONT STATE BOARD EXAMINATION.

Eleven candidates took the regular examination before the Vermont State Board of Medical Registration in October, all of whom passed successfully. Their names are as follows: Charles Stephen Buchanan, Frederick H. Gebhardt, Scott Kenyon Gray, John Hughes, Clark Bates Holbrook, Ulysses C. Johnson, Joseph Taney McGinity, Daniel Joseph Nolan, Edwin Arthur Tobin, John Martin Wheeler, Rodney Fitch Wilard. The questions submitted follow:

PATHOLOGY.

Dr. Janes.

1. What is the most important curative agent, not a drug, in all virulent infective diseases?
2. Describe the post-mortem appearances usually found in acute pneumonia.
3. What pathological appearances would you expect to find in a fatal case of pleurisy?
4. In a prolonged case of dysentery from the tropics, what changes would you expect to find post-mortem?
5. How do the post-mortem appearances in acute milary tuberculosis differ from those of ordinary chronic phthisis?

THEORY.

Dr. Janes.

1. Describe the symptoms and course of a case of sthenic pneumonia, unmodified by drugs, in a robust young adult.
2. What are the indications for treatment in pneumonia? How much and under what circumstances may medicines be expected to influence results?
3. How would you diagnose a case of pleurisy with effusion?
4. How does nature proceed to cure a simple pleurisy?
5. What is the difference between simple diarrhoea and dysentery?
6. Give the symptoms and most common causes of acute gastritis.
7. What are the symptoms of cystitis and how is it to be distinguished from nervous irritability of the bladder?
8. Describe the course of a typical case of typhoid fever.
9. How do the symptoms and course of acute milary tuberculosis differ from those of ordinary chronic phthisis?
10. What are the symptoms and most common causes of cirrhosis of the liver?

OBSTETRICS AND GYNECOLOGY.

Dr. Sparhawk.

1. Give symptoms of placenta praevia.
2. Give treatment of puerpural fever.
3. Treatment of nausea and vomiting of pregnancy.
4. Give symptoms of extra uterine pregnancy with rupture.
5. What are the indications for premature delivery?
6. What are the indications for use of forceps?
7. Describe the mechanism of breech presentation.
8. Give treatment eclampsia.
9. Give indications for use of anaesthetics.
10. What directions would you give nurse regarding care of infant the first week?

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1. Give symptoms of prolapsus uteri.
2. Treatment of dysmenorrhoea.
3. Differentiate ovaritis and appendicitis.
4. Treatment of chronic metritis.
5. Treatment of menorrhagia.

PHYSIOLOGY AND HYGIENE.

Dr. Whitaker.

1. Give the general structure of the nervous system.
3. What is meant by reflex action of the nervous system? Describe it.
3. Name the branches of the fifth cranial nerve and give the distribution of the same.
4. Give the name and source of the inorganic proximate principles.
5. Give the composition of the bile, organic and mineral salts.
6. What are the normal constituents of urine?
7. Describe rigor mortis, also tetanus.
8. Describe the process of digestion and absorption of food.
9. Describe the lymphatic system, and give its function.
10. Describe the different kinds of muscular tissue, and the mode of action of each.

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1. What evils arise from outside privy vaults? How may those evils be averted in cases where these vaults cannot be replaced by modern arrangements?
2. Mention the different methods of bathing and state the hygienic rules to be observed in each.
3. How would you build and furnish a schoolhouse, observing hygienic rules?
4. Give the rule for quarantine in yellow fever, also same for cholera.
5. Give the cause of diphtheria, and the necessary precautions to prevent it.

LEGAL MEDICINE.

Dr. Hill.

1. What is understood by cadaveric rigidity and putrefaction?
2. Describe the examination of a wound in a dead body.
3. Give causes of death in new born children.
4. What is understood by legitimacy?
5. Give a definition of insanity.

SURGERY.

Dr. Hill.

1. Name the three chief forms of bacteria.
2. What is suppuration and how caused?
3. Name the varieties of tumors.

4. Give the differential diagnosis between fracture and dislocation.
5. Describe the operation for removal of the breast.
6. Describe the method of skin grafting.
7. Give symptoms, dangers and treatment of acute synovitis.
8. Describe the varieties of talipes.
9. Give the treatment for chancroid.
10. What are the dangers in passing a catheter or steel sound?

ANATOMY.

Dr. Godfrey.

1. Name the bones of the face.
2. What essential structures enter into joint formation?
3. Describe the diaphragm. Name its openings, and state what passes through each opening.
4. Beneath what points on the anterior surface of the chest walls are located the valves of the heart?
5. Give the origin, course and termination of the vertebral artery.
6. Give a general anatomical description of the lymphatic system.
7. Mention the coverings of the brain. Describe one of these coverings.
8. Give the gross anatomy of the eyeball.
9. What structures are found in the right inguinal region?
10. Mention from without inward, the structures covering a femoral hernia.

BACTERIOLOGY.

Dr. Godfrey.

1. How do bacteria multiply?
2. What microbes are found in abcesses?
3. Name three germicides, and five antiseptics.
4. What diagnostic point can be determined by a microscopical examination of the urine?
5. In order to prove conclusively that a certain micro-organism is the cause of a certain specific disease, what fundamental conditions must be satisfied?

CHEMISTRY.

Dr. Parlin.

1. Briefly describe molecular attraction.
2. Briefly explain disinfectants, germicides, antiseptics, deodorizers. Give example of each.
3. (a) How are normal solutions made?
   (b) What are deci-normal solutions?
4. Mention the chief constituents of blood, and state those predominating in corpuscles and plasma, respectively.
5. (a) Describe method of obtaining urea from urine.
   (b) Name normal pigments of urine.
   (c) What conditions cause an increase in the quantity of ammonia in the body?

MATERIA MEDICA.

Dr. Parlin.

1. (a) How is opium obtained?
   (b) What per cent. of morphine should it normally yield?
   (c) Name four alkaloids of opium and give doses.
2. Briefly give description and properties of ergot.
3. Name two arterial sedatives, and state in what condition they should be given. Give dose of same for a child one year old.
4. Give doses for Norwood's Tr. veratrum viride, digitalis, gelsemium, belladonna, sodium salicylate potassium iodide, podophyllin, calomel, cimicifuga, muriatic acid, bichloride of mercury.
5. Give composition and doses of the following: Fowler's solution, Lugol's solution, Donovan's solution, Basham's mixture.

THERAPEUTICS.

Dr. Parlin.

1. Explain the principle governing the treatment of convulsions when due to toxic agents in the blood.
   Name two conditions and give treatment.
2. Name some conditions where the bromides are indicated, and state method of giving large doses.
3. Write a formula for the following: Coryza, laryngitis, gastraglia, acute articular rheumatism, delirium tremens.
4. Briefly give therapeutic indications for creosote and guaiacol. In what conditions would guaicol be superior to creosote?
5. Name four diuretics. Give physiological action and therapeutic indications for same.

SCOPOLAMINE FOR ANESTHESIA.

From ancient times a deep romantic interest has been manifested in the search for agents that will induce a prolonged sleep, resembling death, from which the patient awakes none the worse for the apparent journey into the realms of the beyond. From the literature which has come down to us it may be inferred that we are now enjoying only a reproduction of scientific facts which were known empirically ages ago, were lost to science, and are just now reappearing. For example, the sleep of Juliet is supposed to have been produced by a decoction of the plant Mandragora.

Schneiderlin, of Germany, and Terrier of Paris, are now bringing into notice a new use of the somewhat well known alkaloid, scopolamine. This drug has been used as a mydriatic and sedative but only to a limited extent. It is obtained from scopola japonica, or carniolica, one of the large family of solanaceæ, which includes hyoscyamus, belladonna, duboisia and other plants of that class. The alkaloids of these plants bear a very close resemblance, both in chemical composition and physiologic action. As far back as 1897 Potter, in his *Materia Medica,* stated that "nearly all the hyoscine hydrobromate supplied by manufacturing chemists consists of scopolamine hydrobromate," quoted from Schmidt.

The authors above referred to use scopolamine as an anesthetic in the following manner:

Commencing four hours before an expected operation, one milligramme (grain 1-64) of scopolamine and one centigramme (grain 1-6) of morphine in a cubic centimetre (16 minims) of water, is injected hypodermically; the same dose is repeated in two hours, and again in one hour. This seems to be a large dose of morphine, but possibly it is partially antagonized by the scopolamine; some patients exhibit profound perspiration, while others do not, probably caused by the varying susceptibility to the one or the other of the two drugs. One-half an hour after the last injection the patient is usually so thoroughly under the influence that an operation can be begun. This produces a profound sleep, with insensibility to pain, lasting from nine to ten hours. There is not the complete muscular relaxation found in chloroform or ether narcosis, thus the patient is in a more natural condition, and the surgeon may judge better the result or any loss of tissue in making the plastic operation. The patient may be partially aroused by shaking or sharp speech. After the effect of the anesthetic has passed away he recovers without any disagreeable after effects, such as nausea or headache.—*Medical Council.*

VERMONT WATER SUPPLIES.

In a paper on the Ground Waters of Vermont presented before the American Public Health Association at its recent meeting in Boston the surprising statement was made that in the analyses of 1733 ground waters made at the Laboratory of Hyigene only 350 were found to be pure normal waters. The remaining 80% showed evidence of pollution past or present—this in a state where the opportunities for mountain springs supplies are unsurpassed. The high percentage of polluted waters is accounted for in large part by the general use in the country of old wells as family supplies. These wells are usually protected to some extent from surface drainage but possible dips in lower strata are very often disregarded. Furthermore the soil around old dwellings in which generation after generation has lived and died is usually thoroughly saturated with organic waste for considerable distances.

Along with these figures goes the showing of the last census that Vermont is the only New England state with the typhoid fever death rate higher among its rural than its urban population. With the inauguration of new supplies in Burlington, Vergennes and St. Johnsbury the city death rate will be further lowered. It is also to be expected that the condemnation of many of these old wells will improve conditions in the country. The inauguration of this work of improving the water supplies reflects great credit on the vigorous Health Board of the state to whom it is largely due.

World's Finest Hospital.—In Mexico City a new hospital has just been completed which has no rival in the world today. It is built on the French detached plan, and consists of five buildings each 50 feet apart, built on the most modern and approved sanitary lines, with a magnificent operating theater and a complete system of isolated wards for all infectious diseases.

The next International Medical Congress will be held in Lisbon, April 19 to 26, 1906. It is expected that it will be one of unusual importance, for a meeting which will be held in what has always been considered as an out-of-the-way country. Already the titles of papers from some of the most distinguished men of the medical profession have been received.

A successful medical practitioner of many years' standing makes the following statement: "There are a large majority of combinations which extemporaneous pharmacy cannot prepare properly; and I know that through the dishonesty, ignorance, or indifference of many retail druggists we are not able to get on prescriptions the very best drugs; hence it is to the manufacturing pharmacist, whose best interest lies in the purity and uniformity of his product, that we must look for our most reliable remedies. I endorse worthy proprietaries, but I most heartily condemn the great tendency of the 'half-baked,' so-called manufacturing 'chemist,' to foist upon the profession and public cheap imitations of standard preparations."

The Vermont Medical Monthly

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Burlington, Vt., November 25, 1905.

EDITORIAL.

Before the next issue of the VERMONT MEDICAL MONTHLY the annual session of the University of Vermont College of Medicine will have begun. This department of the university is to be congratulated upon having its new building completed and equipped ready for the opening of this session.

The building is a large and imposing brick structure, located on the site of the old building which was destroyed by fire nearly two years ago. It has been planned to meet all the requirements of modern medical teaching and is admirably adapted to the work of the department. The various laboratories, lecture halls and recitation rooms are arranged in relation to each other in a most convenient way, both for the students and instructors, and it must be a source of pleasure to the faculty and corps of instructors, as well as the students in this department, to contemplate their work in this building.

We note with pleasure that this department of the university has been progressive and has brought about many changes in the course of study and in educational requirements during the past few years. Students entering this department must have practically the same preliminary education as those entering the classical department of the university. The course of study has been increased from time to time and the curriculum enlarged to meet the requirements of modern medical teaching. The standard of medical education is kept high and students graduating from this department pass the examinations of the various state boards of registration with credit to themselves and to the institution.

The medical department of the university has always done good work and now that it has the increased facilities afforded by its new building it would seem that it is entering upon a new epoch in its history, and we predict a future of increasing prosperity and achievement. It is an institution which has the confidence and support of the physicians of the state and vicinity, and one of which its alumni may well be proud.

It is with much satisfaction that we learn that our Board of License Commissioners is arranging reciprocity with a number of states. There seems no good reason why licenses issued by licensing boards in states which have good registration laws like our own at present should not be accepted in other states. Refusal to accept such licenses is simply an example of arrogance on the part of the states refusing. Much good in this line can be done, and has already been done, through the organization of the American Medical Association, and we may expect within a few years a much greater harmony in this regard. It would seem that some central committee appointed by the Association might pass upon the questions used by the state board of examiners and that examinations taken under such approved questions should be accepted anywhere in the United States. When that day comes we shall be several steps nearer the millenium.

ably to accumulation of the toxic agent, which may induce edema of the lungs or end in exhaustion of the heart muscle.

II. *Therapeutics.*
1. Elimination of toxic agent—*internal hydrotherapy.*
2. Amelioration of harmful influences.
   a. Fever—*external hydrotherapy;* pain *ice bag and analgesics;* restlessness, insomnia, delirium—*external hydrotherapy, analgesics and narcotics.*
   b. Respiratory indications.
      (1) *Heroin or morphine* every two hours for a respiratory rate of 36 or greater.
      (2) *O-inhalation* is probably useless and may be harmful.
   c. Circulatory indications.
      (1) Circulatory sedatives probably contraindicated except the *nitrates,* which may be of benefit during the earlier periods.
      (2) Alcohol indicated in alcoholic cases; may be of benefit when there is no circulatory insufficiency.
      (3) Circulatory stimulants contra indicated except members of the *digitalis* series. The indication is low blood pressure associated with one or more of these conditions, namely, respiratory insufficiency, small urinary output, oedema of the lungs.

PATHOLOGY OF SMALLPOX.

COUNCILMAN sums up (*Am. Medicine, Oct. 21.*) the results achieved to the present time in the investigation of smallpox which was undertaken by members of the pathological department of Harvard medical school. He concludes that the organism that contains the virus of the vaccinia and smallpox is the same; that in vaccinia it undergoes a definite cycle of development resulting in a structure, the gemmule, arising from simple growth and segmentation; that in smallpox a further and more complicated cycle of development, in which probable sexual forms occur, is added to the vaccine cycle. The organisms which bear the etiological role are found within the epithelial cells and are apparently protozoa. In addition to these bodies found in vaccinia, in smallpox lesions other bodies appear which undergo their development not in the protoplasm but in the nuclei of the epithelial cells. He believes that spores from these intra-nuclear bodies contain the contagion of smallpox, which is transmissible through the air, and that the place of primary infection is the respiratory mucus membrane.

DIABETES.

FOSTER (*Boston Med. and Surg. Bulletin, Oct. 19.*) reports an examination of the cerebro-spinal fluid for sugar in twelve cases of diabetes mellitus with positive results in every case. The amount, varying from one-half to three per cent., seems to bear no relation to the amount in the urine.

LENOX CURTIS (*Med. Record, Oct. 14,*) reviews the theories of the pathology of diabetes, then proceeds to consider its etiology. To syphilis he ascribes this role. He considers diabetes simply a symptom. On this assumption he has treated 20 patients, with a complete cure in 18, one of the other two disappearing, and the other dying of epithelioma. His treatment consists in electro-ozonation applied as described in the *N. Y. Medical Journal* of June 18, 1902, prescribing in addition such alteratives as mercury and potassium iodide, and such tonics and sedatives as iron and veratrum viride, with no particular diet restriction.

GASTRIC DIAGNOSIS.

TURCK describes a double tube which he uses for this purpose (*N. Y. Med. Journal, Oct. 21*).—One tube of small calibre is fastened parallel to the large sized tube ordinarily used, in proportion something like the old-fashioned shot gun with ramrod alongside. The double tube is so constructed that the end of the smaller tube reaches the upper portion of the stomach just below the cardiac orifice, while the larger tube extends to the floor of the stomach. This double tube being somewhat oval in cross section conforms to the anatomic shape of the esophageal opening and is more easily introduced and less apt to kink. When this tube is inserted the smaller tube is connected with a large compressing air bulb and air pumped into the stomach, forcing itself back with the stomach contents through the large tube. He claims for this method greater efficiency, less distress and effort on the part of patient, less danger of injury to mucus membrane, and more certainty in procuring the contents.

MUSSER enumerates the principal diseases in which gastric symptoms are prominent without there being necessarily any organic disease of the stomach whatever (*Journal A. M. A., Nov. 4.*) First among those mentioned are the disorders of the eyes, ears and of the nose and throat, the gastric symptoms of which are familiar to all. In the diseases of the nervous system he refers to the gastric crises of tabes, the vomiting attending apoplexy, meningitis and brain tumor, and especially to the gastric symptoms of epilepsy which are sometimes misinterpreted in obscure cases of this disorder. Acute affections of the cardiovascular system may have gastric symptoms as their sole expression, and they are still more pronounced and continuous in failure of compensation. Among lung diseases apex pneumonia and tuberculosis are examples, and in children with severe vomiting the possibility of the former infection should be borne in mind. The gastric symptoms of liver disease, of disorders of the intestines and appendix and of the genitourinary organs are well known, and in blood disorders the vomiting, etc., of chlorosis is a familiar example. Among the infectious disorders, special mention is made of tuberculosis, gonorrhea and syphilis, and among the intoxications, those of tobacco and lead, exophthalmic goiter, internal suppuration, Addison's disease and uremia. The gastric neuroses of hysteria and neurasthenia sometimes cause special difficulties of diagnosis. Non-gastric diseases generally require the closest examination of all the organs and study of all the secretions and excretions, as well as of the clinical course and history. The symptoms bear more or less relation to pathologic or physiologic fluctuations of the primary cause in eye, heart, kidneys or whatever other organs may be affected, and have not the constancy of those of organic gastric disease.

HYPERCHLORHYDRIA.

LICHTY (*Am. Medicine, Oct. 28.*) discusses the subject hyperchlorhydria, concluding (1) that hyperacidity is a frequent condition; that the name should be reserved for that class of cases of hyperacidity accompanied by marked and rather constant nervous

for causing the death of Dr. George R. Woodside of Bristol. The boy was shooting at random, when Dr. Woodside, who was riding by, received one of the shots in the temple. The trial is now in progress at Wiscasset.

Dr. Frank S. Hamlet, a graduate of the University of Vermont, Medical Department, '91, was killed at his home at Gorham, Nov. 6, by falling from the roof of his house while cleaning out the gutters. Dr. Hamlet, who was about 45 years of age, was a native of Brownville and completed his academic education at Bates College. He had a large practice at Gorham and was prominent in social life. A widow and three children survive him.

MASSACHUSETTS.

An examination for the appointment of interne at St. Luke's Hospial, New Bedford, will be held Dec. 16. The term of service is eighteen months from Jan. 1, 1906.

Dr. Louis Edmonds of Harwich has resigned as associate medical examiner for Barnstable county to become superintendent of the state leper colony at Penikez Island, near New Bedford. The colony will be established at once and the five lepers. Dr. Edmonds is a graduate of Harvard Medical School, class of '93.

NEW YORK.

The marriage of Dr. Ernest A. Campbell of New York City, and Miss Edith J. Skinner, granddaughter of the late Dr. Calvin Skinner, occurred Oct. 25, at the home of the bride in Malone.

The meeting of the Medical Association of Northern New York was held at Malone, Oct. 24, with a good attendance. Officers for ensuing year were elected as follows: President, Dr. E. S. McClellan, Saranac Lake; vice-president, Dr. Charles Smith, Winthrop; secretary, Dr. A. G. Wilding; treasurer, Dr. George H. Oliver, both of Malone.

The annual meeting of the Glens Falls Medical and Surgical Society was held Nov. 2. The paper of the evening was read by Dr. H. C. Monroe of Sandy Hill on the subject "Pain as a Symptom of Disease." The following officers were elected: President, Dr. R. J. Eddy of Glens Falls; vice-president, Dr. J. S. White of South Glens Falls; secretary-treasurer, Dr. W. C. Cuthbert of Sandy Hill.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

PNEUMONIA.

WELLS discusses the subject of pneumonia in the young (*Journal A. M. A., Oct. 14*), and sums up his treatment under these points: keeping the pneumococcus-free child out of range of the infecting germ; avoiding exhaustion and too profound sleep in the pneumococcus-harboring child; cleansing the fluids of the body intravascular and extravascular, of soluble toxins, in the pneumonic patient. From the beginning the pneumonic child should be given liquids to drink as freely as they can be taken; in addition normal salt solution, modified possibly by the addition of coffee or other medicament, should be administered per rectum in such quantity and frequency as can be received, retained and absorbed. Beginning early, give moderate or large doses of a reliable tincture of digitalis, with the enemata if they are retained. Other vasomotor tonics and stimulants, e. g., caffein, adrenalin, etc., may be used. If these little pneumonics have high fever, much dullness or restlessness, they are apparently made more comfortable, rational and normal by systematic sponge, preferably tepid, bathing, followed by alcohol repeated as often as required. This failing in its object, guaiacol, in suitable dosage, may be applied to the thin skin of the flexures as an efficient substitute. These may be advantageously supplemented by the ice cap applied at intervals. Oxygen inhalations are clearly useful when the patient is not fretted by their use. Strychnia, aromatic spirits of ammonia, etc., may be employed as required. In cases of profound nervous failure, with apathy, surface pallor and abdominal distension, the little patient may sometimes be aroused by a stimulating glycerinated enema. The medical attention and nursing should be assiduous and of the highest quality. The child should be disturbed as little as possible compatible with necessary attention. The purest, freshest and most comfortable air obtainable should be supplied. Complications should receive prompt and careful attention and in those requiring it (especially empyema) surgical relief should be given promptly.

WALTER V. BREM, in *Johns Hopkins Hospital Bulletin*, summarizes the result of studies of the action of the toxic agent in lobar pneumonia as follows:

I. *Action of the toxic agent of lobar pneumonia.*
   1. Phenomena of mild action bear the features of stimulation of the central nervous system and cardiac muscle.
   2. Phenomena of severe intoxication appears to result from intensified stimulation or enfeeblement and exhaustion from over stimulation.
   3. Death occurs from (1) respiratory insufficiency terminating in asphyxiation or in exhaustion of the respiratory centers, or (2) circulatory insufficiency which leads presum-

class of 1884, and practiced in Newport during most of his professional career. He is survived by a widow and three sons, one of whom is a medical student at Dartmouth.

Dr. F. A. L. Lockhart of Montreal, professor of gynecology in McGill college, has been elected professor of surgical gynecology in the University of Vermont College of Medicine, to fill the vacancy caused by the resignation of Dr. A. Lapthorn Smith. Dr. S. E. Maynard of Burlington has been elected assistant professor of surgical gynecology, and will give part of the lectures and clinics in this course during the coming session.

An attractive prospectus has been issued by the Brattleboro Memorial Hospital, containing half-tone photographs of the building and grounds. The hospital is a one-story, brick building of modern fireproof construction, consisting of two wings, each containing a ward and four private rooms. The administration building was formerly the Hall Mansion. There is also an operating pavilion, contagious building and nurses' home. The medical board consists of Drs. Ansel I. Miller, Henry Tucker, George R. Anderson and Charles S. Pratt.

The occurrence of what was apparently some form of poisoning at St. Joseph's Orphan Asylum at Burlington, has been the incentive for much study and thought among the physicians of the city and vicinity. During 24 hours, Oct. 25 and 26, 17 children, all girls, showed symptoms of gastric disturbance, with dilated pupils and slight excoriation of the buccal and nasal mucous membranes, subnormal temperature and in some cases convulsions. Three of the children died within that time, one within two hours after the first symptoms appeared. The rest recovered slowly. Autopsies were done in two cases, but gave negative results as did cultures taken from various locations. The report from the State Laboratory of Hygiene, after examination of the organs and tissues also failed to throw light on the matter. Locust poisoning has been suggested.

NEW HAMPSHIRE.

The 98th annual meeting of the Stratford County Medical Society was held at Dover, Nov. 15.

Several New Hampshire physicians attended the meeting of the New York and New England Association of Railway Surgeons held in New York City Nov. 17 and 18. Dr. Granville P. Conn of Concord is president of the association. Papers were read by New Hampshire surgeons as follows: "Ultimate Results of Injuries to the Head and Spine," Dr. Ira J. Prouty, Keene; "Conservatism in Railway Surgery," Dr. Ferdinand A. Stillings, Concord; "Some Effects of Shock," Dr. M. S. Woodman, West Lebanon.

Hospital Fund at Littleton.—Dr. W. J. Beattie, to whom a gift of $10,000 was recently made as a nucleus for a hospital fund, has announced three more donations of $1000 each. John J. Glessner, the Chicago millionaire, whose summer home is located near Littleton, has given $1000, of which $500 is to be used as the building fund and the remainder to be paid annually in instalments of $100. The other donor is Gen. George T. Cruft of Commonwealth Avenue, Boston, proprietor of the Maplewood property in the White mountains. His $1000 goes to the building fund. Benjamin W. Kilburn of Littleton, a wealthy manufacturer, recently gave $1000.

MAINE.

An examination for the appointment of house officer at The Sisters' Hospital, Lewiston, will be given at the hospital, Dec. 16. The service begins Jan. 1, 1906, continuing at least one year. Dr. H. H. Cleveland of Auburn has charge of the examination.

The Androscoggin County Medical Association met at Lewiston, Nov. 7, Dr. H. H. Cleveland of Auburn, the vice-president, presiding. Dr. Cleveland read a paper relative to medical charity. There was a good attendance and the meeting was one of unusual interest.

An indictment has been found against Joseph McFarland, a lad of 15 years of age

The medical theorist has ever been prone to allow his enthusiasm to carry him into extravagances. A recent article in the Medical Record, in which the writer vigorously maintains that all cases of diabetes mellitus are due to syphilis and can be cured by anti-syphilitic treatment, is rather suggestive of this sort of enthusiasm. Syphilis is a disease with many sequelae, but is it not altogether possible that too many conditions whose etiology is obscure are laid to its door with too little actual proof of such relationship? If we must now consider that every diabetic is a syphilitic, or the son of a syphilitic, where are we going to land? We may well wonder whose reputation is safe. If this idea once gains a hold among the laity think what injustice it may work. Diabetes, like tabes, in itself is an affliction deplorable enough, but to add to it the stigma of syphilis is not only unjust but cruel and one should be well backed by proof before advancing such a theory.

The recent examination of the eyes, ears and throats of school children throughout Vermont, shows, as far as reported, a considerable percentage of children with defective vision. These children are told they must wear glasses, but it is probable that only a small number will see an ophthalmologist. The great majority will be taken to opticians or jewelers—some of whom are given the title of "doctor"—who, after trying a few pairs of glasses sell the one which the child says is best. This is not refracting, nor is it presumable that the lenses given these children are correct for their needs. It should be the business of every family physician to see that children are properly fitted, as by so doing he will save work for the ophthalmic expert later on, and save himself from cases of nervous, ill-nourished children, whose resistance to treatment is the bane of the doctor's life. Gould makes the statement that 99 per cent of migraine is due to eye-strain. This being true, or even approximately true, the duty of the general practitioner is plain.

NEWS AND PERSONAL ITEMS.

We desire to make this column of personal interest to all. Physicians are requested to send news items.

VERMONT.

Dr. Weston H. Rice, who was recently married at Essex Junction, Vt., has gone, with his bride, to California, where he will practice his profession.

Dr. George H. Parmenter, city physician of Montpelier, was married to Miss Lillian Vail of Worcester, Oct. 25. Dr. Parmenter is a graduate of the University of Vermont, Medical Department, class of 1902, and later served as house surgeon at the Mary Fletcher Hospital at Burlington.

The University Research Club, an organization of the medical profession in Burlington, will hold its first meeting of the season Dec. 11. Papers will be read by Dr. F. E. Clark on the purification of water by natural and artificial means, and by C. P. Moat, chemist at the State Laboratory of Hygiene, on the analysis of water.

Dr. A. R. Greene, formerly of the University of Vermont Medical Department and well known to Vermont men, attended the International Milk Congress in Paris recently, and read a paper on the milk situation in New York city. Dr. Greene is the director of the Straus milk depots of New York, and is widely known as an expert on milk modification.

The Vermont Osteopaths' Association held its sixth annual meeting at Barre, Oct. 26. The following officers were elected: President, Dr. C. G. Wheeler of Brattleboro; vice-president, Dr. Rose Cota of Burlington; secretary and treasurer, Dr. Harry M. Loudon of Enosburg Falls; executive committee, Dr. S. M. Knauss of Montpelier, Dr. H. K. Sherburne of Rutland and Dr. W. W. Brock of Montpelier.

Dr. Charles V. Bogue died at his home at Newport, Nov. 8. He had been in poor health for some time and had planned to spend the winter in California, when sudden illness overcame him. Dr. Bogue was graduated from Rush Medical College, Chicago,

symptoms, excluding the cases with no associated neurotic condition; (2) that hyperchlorhydria is difficult to diagnose. The diagnosis cannot be made without an analysis of the stomach contents and often must be withheld until the course of the condition can be observed; (3) the treatment consisting largely of regulated diet, must be persistent; (4) the prognoisis, so far as the relief of symptoms is concerned, is good; so far as overcoming the acidity is unfavorable.

BLOOD PRESSURE.

BISHOP (*N. Y. Med. Journal, Nov. 4,*) describes the three vices of blood pressure as follows: (1) primary low arterial tension, met with in all enfeebling disease, in great physical emergencies, and following either disease of the heart structure or failure of vital force and tissues of the body; (2) high arterial tension, indicating that the circulation is laboring under stress, and due to nervous causes, such as overwork, excitement, and dissipation, or chemical causes such as the over ingestion of food, or the failure of kidney elimination, indeed all the causes which can arise from a life of mental hardship combined with physical luxury; (3) secondary low arterial tension, which represents the final outcome of preexisting high arterial tension.

MIGRAINE.

GOULD notes the confusion that exists in regard to the conception of migraine in the literature and is especially severe on the neurologists and others who have not accepted eyestrain as its general prevailing cause (*Journal A. M. A., Oct. 28*). Of all atypical diseases, he says, migraine is, by all odds the leader. This is, first, because its cause, eyestrain, is of a thousand different kinds and intensities, and second, because vision is so bound up in some way with almost every physiologic activity, every psychic and bodily function, that the symptoms produced by its derangement are almost multiform. He gives the history of the eyestrain theory of its causation, and quotes from a large number of writers who have reported cures of the condition by correction of ocular defects by proper fitting of glasses. He says: "I could give the details of perhaps a thousand cases of 'migraine' or sick headache cured by glasses. I should say that 90% of cases are immediately curable, and a large proportion of the rest curable in time, and as soon as the secondary systemic functional effects have been overcome. A few cases are incurable, because these secondary effects have become organic or too chronic to allow any cure. There are also rare cases in which mental reaction has become impossible."

THERAPEUTICS.

TYPHOID FEVER.

ENGLISH (*Med. Record, Oct. 28*) describes his treatment of typhoid fever. The patient whose history indicates typhoid, is at once sent to bed and directed to keep perfectly quiet, and to have absolutely nothing until next visit but distilled water or a little weak tea. If in the first week of disease he is given 10, 20 or even 30 grs. of calomel followed in eight hours by ½ oz. of magnesium sulphate. If in the second week when first seen, he is given ½ gr. calomel in combination with 3 grs. of sodium bicarbonate and ⅛ gr. each of aloin and podophyllin, followed by ½ gr. calomel and soda every half hour until eight doses have been taken. The special medical treatment following the cathartic is carbolated camphor made by mixing three parts of gum camphor with one of crystalized carbolic acid liquified by heat. This is allowed to stand lightly covered for 48 hours, then filtered through absorbent otton and a little more clean camphor gum added. This mixture, preferably two weeks old, is given in doses of from 10 to 12 gtts. every two hours. The dose is administered by dropping into a capsule just before using. This dosage is kept up from three to five days, when it is gradually lessened. The indications for lessening the dose are lowering of temperature; the altering of its regularity of curvature; the absence of exhausting diarrhoea or tympanitis; and the evidence of cardiac depression. The diet consists largely of Weir Mitchell's dissolved beef given in 2 oz. doses at 6, 8, 10 and 12 A. M. and 3, 5, 7 and 9 P. M. The white of one egg acidulated is given at 7, 9 and 11 A. M. and 4, 6, 8 and 10 P. M. The egg is prepared by stirring the white in a little acidulated distilled water.

GONORRHOEA.

LYONS (*Med. Record, Nov. 4.*) reports that of 400 cases of gonorrhoea treated by his quick curative treatment 384 or about 95% were cured in six days and about 80% in 24 hours. His treatment, which he applies to selected early cases, consists of injecting into the urethra immediately after the patient has urinated, 1½ dr. of a 4% solution of nitrate of silver, using for the purpose an ordinary conical-shaped soft rubber syringe. On removing the syringe the meatus is held to retain the solution inside the urethra for from two to three minutes. At the end of 24 hours the character of the discharge changes to a thin serus fluid. If no gonococci are found in this fluid nothing more is done. If they have not entirely disappeared the injection is repeated with 1½ dr. of 2% solution of silver nitrate and on the third day this is repeated for the last time, using a 1% solution. There is no use, he thinks, in applying this treatment except in early cases.

HAY FEVER.

L. WEIGERT STERNE (*N. Y. Med. Journal, Oct. 28,*) treats hay fever by the use of sodium bicarbonate in powder, or in saturated solution or with 1 gr. of cocaine hydrochlorate to 1 dr. of sodium bicarbonate. The administration of this remedy may be preceded by an application of cocaine, or sodium bicarbonate may be mixed with some agent (sodium chloride, for instance), which will diminish or abolish its irritative action. In incipient and in mild cases insufflate or snuff well up through each nostril a few grains of the powder, morning and night, and during the day whenever the slightest symptom of the affection appears. In more advanced cases, especially where nasal respiration is difficult or impossible, and in those where there are incrustations on the nasal mucous membrane use a saturated solution of sodium bicarbonate frequently and freely by means of a nasal douche, until the passages are patent, when the use of the powder can be substituted.

MUSCULAR RHEUMATISM.

CATES (*Boston Med. and Surg. Journal, Nov. 2,*) sums up what he considers the proper treatment of muscular rheumatism in (1) the proper mastication

of one's food; (2) the proper exercise of one's muscles, using only those methods that call into play movements most nearly akin to the natural play of the muscles.

HYPERACIDITY.

ALBU (*Am. Medicine, Oct. 28,*) gives his treatment of hyperacidity. He carefully regulates the diet, allowing some amylaceous food, provided the finest sorts of flour carefully freed from bran are used. Vegetables, spinach, cauliflower, carrots, green peas, etc., are allowed, but are given in puree. Albuminous food is permitted in the form of meat, fish, eggs, curds, etc. Of fats, only good unsalted butter, cream and olive oil are given. He especially advises giving one or two teaspoonfuls of the best olive oil one or two hours after the chief meal. Milk, cocoa and chocolate are allowed. Sugar is borne well by some patients but is harmful to others, and should be used or excluded accordingly. He strictly excludes all raw vegetables, fat meats and amylaceous food from which cellulose has not been completely removed. The treatment consists of lavage in severe cases, especially late in the evening. To the lavage infusions of some alkali are added. He gives the following as a suitable prescription for medicinally combating the hyperchlorhydria:

Extract of Belladonna .....30 cg.
Bismuth nitrate, Magnesium Usta,
of each.....10 gms.

Three times a day, as much as can be held on the point of a knife or ½ teaspoonful one or two hours after the chief meal.

TYPHOID FEVER IN CHILDREN.

After first reviewing the literature with reference to the frequency, theories of causation, etc., W. J. Butler, Chicago, (*Journal A. M. A.*, November 11), gives a clinical analysis of 210 cases of typhoid fever in children, 106 boys and 104 girls. The duration of symptoms, such as restlessness, vomiting, drowsiness, headache, anorexia, fever, etc., before coming under observation, was, on the average, seven days. In 107 in whom the condition of the bowels was ascertainable, 69 had diarrhea, 31 constipation, and in 7 the bowel movements were irregular. Nose-bleed occurred among the preliminary symptoms in only 29 of the 210. After coming under observation, anorexia and furred tongue were the rule. Vomiting occurred in 28 cases, in 13 of which it had been present during the onset. In many cases it seemed to precede more serious symptoms or complications. In 184 patients accurately noted as to this point, constipation existed in 100 and diarrhea in 84. Butler does not ascribe to the former any very special prognostic significance. Tympany of varying degree was usually present after the first week, and in some cases was an annoying symptom extending into convalescence. The spleen was palpable in 134 out of 148 cases examined. Roseola was found in 115 of the 210 cases, seldom before the sixth day of the disease. It was usually absent in the mild and abortive cases. Epistaxis occurred in 12 cases during the course of the disease, in one case several times and with repeated bowel hemorrhages, terminating fatally. The average duration of temperature in all cases was 17.3 days. The disproportion between pulse rate and temperature, first noticed by Roger in adults, holds good for later childhood, but in very young children they run more or less parallel. A dicrotic pulse was seldom found. Blood counts were made in many cases, chiefly with reference to the leucocytes. The weekly averages were as follows: First week, 6,571; second week, 7,200; third week, 6,740. Some interesting variations are recorded. The Widal test was made in 96 cases, with 86 positive results. Butler does not consider the negative tests as of much significance, as only one, or at most two, trials were made. In 40 patients the reaction was positive within the first four days after coming under observation. In some it was considerably delayed. Nervous symptoms, headache, drowsiness and delirium were rather frequent and there was generally some dullness or apathy. Ehrlich's urinary test was made in a number of cases with usually positive results. Butler does not consider it, however, as of much diagnostic value. Relapses seem to be more common in children than in adults, and in girls than in boys. They occurred in 31 of the 210 cases, in five cases fatal. The mortality, as usual lower in children, was eleven, or 5.2 per cent. Among the more interesting complications noted were ocular paresis in the first week of the disease in one case, several cases of meningeal involvement, and two cases of neuritis occurring after relapse. In some of the severer cases, evidences of myocardial involvement were present. Intestinal hemorrhage occurred in 13 patients, of whom four died, one from perforation occurring after a hemorrhage. Details of the fatal cases are given. The treatment was symptomatic and hygienic. Butler, from his experience in these cases, is inclined to think that the enlargement of the diet of typhoid patients, advised by some, is unadvisable so far as children are concerned. Milk, diluted for infants and very young children, with albumin water, and the usual cereal gruel diluents, such as barley water and rice water as drinks, he thinks, are best for this class of cases. Care in diet during the early part of convalescence is as important as during the height of the attack. Hydrotherapy was also employed, tubbing in practically all cases. The temperature was the usual guide to its employment, also the nervous symptoms which it seemed to benefit. In very severe intoxication, high enemas of salt solution were used with advantage in increasing elimination, especially renal. Intestinal antiseptics, salol, acetozone, etc., did not seem to be of any particular advantage. Two of the four patients with perforation were operated on, but all died.

BLOOD CULTURES FROM TYPHOID.

R. Duffy, Pittsburg (*Journal A. M. A.*, November 18), believes, from his observations here reported, that blood cultures afford a surer and earlier diagnosis of typhoid than the Widal reaction and are perfectly feasible in family practice. In his 88 cases, the Widal test was positive in all but two, and in 18 the blood cultures showed bacilli before the Widal test. The cases were not selected, but were taken as they came. Eleven were fatal. The blood was taken from the arm veins and cultivated in bouillon (1-50th dilution) in the incubator for 48 hours. In a few cases positive results were obtained only at the end of four days. In 36 cases in which the temperature was above 102 the bacilli were present in the blood in every case, and in 23 cases in which the temperature was 100 or 101 F., the bacilli were cultivated from the blood in 10 cases, or 43 per cent. Other organisms than the typhoid bacillus were found in the cultures after the second week with the temperature 103 or over, but none before. His conclusions are given as follows: "1. *Bacillus typhosus* is present in the blood in all cases of typhoid fever in the second and third weeks,

when the temperature is 102 or over. 2. Bacilli of the enteric group of bacteria (*Bacillus alcaligenes*) are present in a considerable percentage of the cases after the second week, at first accompanying *Bacillus typhosus*, then supplanting it. 3. Later in the disease, cocci may be present in the blood. 4. *Bacillus coli communis* is never present in the blood of typhoid patients." In the cases in which the typhoid bacillus was isolated no control cultures were made to exclude the possibility of air contamination.

COPPER SALTS IN ACTINOMYCOSIS AND BLASTOMYCOSIS.

In this paper, which he calls a preliminary report, A. D. Bevan, Chicago (*Journal A. M. A.*) remarks that, while iodid of potassium has a very definite and positive effect on circumscribed lesions of actinomycosis, a very large proportion of the cases of abdominal and lung infection are fatal, in spite of the treatment. He has been looking, therefore, for some other method of treatment and the well known action of copper salts on vegetable parasites suggested their employment. Of these the most powerful is the sulphate which the French investigators have shown can be taken in doses of from 2 to 8 grains a day for a long period without deleterious results. He has used it in several cases in doses of from one-quarter to one-half a grain, in some cases increasing it to one grain three times a day, also employing irrigation with a 1 per cent. solution. The results seemed so satisfactory that he has also used it in two cases of blastomycosis, the skin lesions of which are likewise benefited by iodid of potassium, especially in conjunction with the x-ray. A case of each of the two diseases thus treated with good results is reported. The treatment seems to him to be a logical one, and he thinks that collective further experimentation should be undertaken to determine the value of copper as a cure for these conditions. It is possible that, as in syphilis, a mixed treatment, using both copper and the iodids, would be most effective in some cases.

SURGERY.

INGUINAL HERNIA.

Bodine (*Med. Review, Oct. 21,*) maintains that inguinal hernia can be radically cured under local anesthesia with greater safety to the patient; equal thoroughness; and with as little discomfort. This is due to the regional restriction of the field of operation and its superficial position. Sensation in the entire field of work is presided over by three nerve trunks, viz: the inguinal branch of the ilio-inguinal, the hypogastric branch of the ilio-hypogastric and the genital branch of the genito-crural. Of these three the first is of the most importance and cocainization of this trunk controls most of the sensation. If the three trunks are found and cocainized the operation is totally devoid of pain. The line of skin incision is infiltrated with a cocaine solution made by dissolving 1 gr. of cocaine in 1 oz. of sterile salt solution. The needle is now passed through the anesthetized skin and fascia and the solution infiltrated around the external ring. The aponeurosis of the external oblique is incised over the situation of the internal ring, the flaps retracted and the ilio-inguinal nerve exposed and cocainized by injecting the trunk at its highest point with a few drops of stock solution. The incision is now carried into the external ring and the ilio-hypogastric nerve may or may not be found and cocainized. If not, the margins of the internal ring are infiltrated with cocaine solution. Along the central line of the long axis of the protrusion a line of infiltration with the same solution is made. A clean incision with scissors is made through the hernial coverings to the sack. The operation can be completed in any manner the operator prefers.

DISEASES OF THE RECTUM.

C. B. Kelsey (*Med. Record, Oct. 14,*) discusses the advantages of office procedures with local anesthetics over hospital treatment in many cases of rectal disease, concluding that half of the rectal surgery is minor surgery and could be done in the office, as well as in the hospital. For the anesthetic he uses eucaine. He then describes his office treatment of some of the common rectal affections. Fissure he treats by simple stimulating dressings or by incising the muscular fibers which underlie the ulcer, under anesthesia produced by hypodermic injection of weak eucaine solution. Pruritis ani is treated by first destroying the skin hypertrophy under local anesthesia with actual cautery or chemical applications and then treating the skin disease. Fissure may possibly be cured by curettage, stimulation and drainage, but in the majority of cases anything but radical treatment under general anesthesia is a failure. Hemorrhoids he treats by punctate cauterization of the hemorrhoid with a needle rendered hot by electricity. Anesthesia is produced by the injection of a few drops of a weak solution of eucaine. A galvanic cautery is used as more convenient than a Paquelin and the fine point heated to redness, is plunged into the substance of the tumor.

DISEASES OF THE GALL BLADDER.

Baldy (*N. Y. Med. Journal, Oct. 14,*) thinks that there is a tendency to operate on the gall bladder on too meager symptoms and too indefinite data, and at the time of operation surgeons are attempting to do too much. The so frequent removal of the gall bladder, he maintains, is unnecessary and illogical and will in future be replaced by simple drainage.

EXTRAUTERINE PREGNANCY.

Carstens (*Journal A. M. A., Nov. 9,*) remarks the occasional occurrence of cases of extrauterine pregnancy not manifesting the usual symptoms and rendering possible mistakes in diagnosis, even by very well-posted diagnosticians. Two such cases are reported by him, and he draws from them the following conclusions: "First, extrauterine pregnancy must always be in the physician's mind in cases of sudden onset of pelvic trouble. Second, the least irregularity of menstruation is suspicious of extrauterine gestation. Third, inflammation and sepsis following a supposed miscarriage often are due to ruptured ectopic pregnancy. Fourth, prompt operation is always indicated; the choice of the vaginal or abdominal route depending on circumstances."

DYSMENORRHOEA.

Holden (*Am. Medicine, Nov. 4,*) discusses the surgical treatment of dysmenorrhea with a special reference to his own work in the dilation and curettement of 95 cases. Of these 95 cases treatment was successful in 40. He divides dysmenorrhea into primary and secondary. In primary dysmenorrhea the pelvic organs are either normal or else merely poorly developed. In secondary dysmenorrhea mark-

ed pathologic changes are present in the pelvic organs, and these pathologic changes are the cause of the dysmenorrhea. The most frequent pathologic conditions causing dysmenorrhea are (1) pelvic inflammatory disease; (2) retrodisplacement of the uterus; (3) myomas, especially the submucous variety. In 40% of all cases of dysmenorrhea in which the pelvic organs are normal, or else merely poorly developed, dilation and curetment are followed by entire or very great relief from dysmenorrhea for a year or more with or without subsequent return of the trouble. No relief whatsoever may be expected in 30% of the cases. The relief in the remaining 30% varies in degree and duration. While dilation and curetment in the majority of cases is perfectly safe, still when the technic of the operator is imperfect, either on account of unfavorable surroundings or lack of proper skill, it may be exceedingly dangerous.

VAPOR METHOD OF ANESTHESIA.

GRATHMEY (*Med. Record, Oct. 14,*) describes an apparatus devised by himself which is a modification and improvement of the Braum inhaler, permitting the use of chloroform, ether or any other gas desired. He then discusses the relative advantage of these methods over the drop method.

CANCER OF THE BREAST.

Homer Gage, Worcester, Mass. (*Journal A. M. A.*, Nov. 11), gives the result of 62 additional cases to those already reported by him. All the patients were operated on before 1904 and 42 of them before 1902. He does not believe in any three-year limit as indicating a cure and thinks that the practice of so estimating it should be abandoned. He has no very decided faith in anything but radical operative procedures in breast cancer. Excluding one patient not heard from, three incomplete palliative operations and one patient who died shortly after the operation from typhoid fever, there are left 57 cases. Of the patients operated on over three years ago, 38 in number, 15, or 39.5 per cent., are well at the present time. This is an improvement over his previous statistics and is attributed by him to the more radical operation. His statistics do not throw much light on the value of age as a factor determining the possibility of recurrence, but they support the common opinion of the lesser malignancy of cancer in old age. It is a little surprising, however, that the patients between 40 and 50 seem to do better as regards recurrence than those in the next following decade. The numbers, however, are not very significant. No deductions of any value can be made from the figures as to the duration of the disease. His results show the value of the more radical operation in lengthening the period of immunity from recurrence when less than three years as compared with his earlier statistics. A radical operation is possible in every case in which the cancer is not firmly fixed to the chest wall or in which the cervical or infraclavicular glands are palpable. The chance should be taken, even if the axillary glands are enlarged if those beyond can not be felt.

UTERINE DISPLACEMENTS AND PLASTIC GYNECOLOGIC SURGERY.

Daniel H. Craig, Boston (*Journal A. M. A.*, November 18), advocates greater conservatism in operating for retroversion of the uterus. He protests against the not uncommon notion that the multiplicity of operative procedures indicates that no one satisfactory operation has as yet been devised. In his opinion, it testifies to the infinite variety anatomically manifested in these cases and to support his views he has addressed questions to the devisers of different operations, asking them as to their own opinions of the limitations of their respective methods, and publishes their replies. These, he thinks, establish his contention that no one operation fulfils all conditions and that a multiplicity of methods is essential to a broad success. He also pleads for the utilization of normal structures as against unnatural uterine supports. He does not say that ventral and vaginal suspension and vaginal fixation are absolutely unjustifiable operations, but holds that they are performed altogether too often, and that the only cases in which they are advisable are those in which from concomitant or prior operations, developmental arrest, atrophy from untreated disease or senile degeneration, the normal supporting structures of the uterus were absolutely unavailable. It is the duty of every surgeon operating in these cases to familiarize himself with all the methods and to be able to use any or all of them, governed by the needs of each individual case. The same principles apply to all plastic operations for the repair of injuries to the birth canal. The individual case should determine the method for each tracheoplasty or cervical amputation for the relief of laceration, and only principles, not details, can be definitely described for the repair of the lacerated perineum.

INTERCRANIAL COMPLICATIONS OF EAR DISEASE.

Prefacing his paper with some brief statistical statements, J. F. Barnhill, Indianapolis (*Journal A. M. A.*, November 11), discusses the conditions of sinus thrombosis and brain abscess complicating acute or chronic ear disease. In view of the fact that without treatment these conditions are almost invariably fatal, their early diagnosis is most important, and the history of earlier ear disease, though present symptoms may be lacking, should invariably be looked for. Sinus phlebitis or thrombosis may come from other causes, such as deep infections of the neck or infections of the nasal sinuses, etc., but it is most frequently the result of ear disease, which is often present. In its later stages, it is easily recognized by its attending general pyemic condition, but its early diagnosis may be difficult. When, however, with persistent ear discharge and simple mastoid inflammation, the patient's symptoms seem to be more serious than the local conditions alone would warrant, Barnhill thinks that exploration of the mastoid is entirely justified, and that even if it fails to reveal sinus disease, it is still a prophylactic measure of the greatest importance. Without the drainage thus afforded, the possibility of sinus involvement is vastly increased. The later cerebral symptoms, together with the general pyemic condition, indicate mischief already done, and calling for prompt relief. Outside the skull the occurrence of edema behind the mastoid swelling, along the course of the internal jugular, and edema of the eyelid have valuable diagnostic bearings, but the most characteristic symptoms are the high temperature with remissions and septic chills. Any of these symptoms occurring with persistent ear discharge, or with a violently acute otitis, should suggest the possibility of sinus involvement. Sinus thrombosis may be mistaken for malaria, typhoid or acute tuberculosis, and in children for acute digestive disturbances. The differential diagnosis, however, should generally be prac-

ticable. The symptoms of brain abscess also are more or less indefinite, but the cerebral symptoms, the headache, the subnormal temperature and pulse, the exaggerated reflexes and vomiting are rather more prominent and constant. An abnormal, irritable disposition, he thinks, has some diagnostic importance. Brain abscess may follow long-continued chronic ear disease or an acute attack. Vomiting is a prominent symptom, occurring in nearly all cases, and the eye fundus may give important evidence as changes are noticed in about one-half of the cases. A brain abscess, however, may be latent as to symptoms and exist for a long time unsuspected; Barnhill believes that with more careful ear examinations and observation of general symptoms this would not often be the case, and the needed surgery could be done in time.

SANITATION.

QUARANTINE.

FULTON (*Am. Medicine. Oct. 14.*) writes critically regarding the quarantine methods of the southern states, characterizing them as full of panic-bred extravagances. The cause of this he attributes to the fact that the health boards of these states are only active in times of emergency. He maintains that when these four states, Alabama, Louisiana, Mississippi and Texas, recognize the supreme importance of the ever present and familiar causes of death and when health officers sharpen their wits and seek out and relieve the common needs of the people, there will be an end of delirious quarantine. Boards of health can only acquire skill and confidence of the people by continual rather than spasmodic activity.

BOOK REVIEWS.

CLINICAL DIAGNOSIS AND URINALYSIS.—A manual for students and practitioners. By James Rae Arneill, A. B., M. D., Professor of Medicine and Clinical Medicine in the University of Colorado; Physician to the Denver County Hospital and St. Joseph's Hospital, Denver; Consultant to the Jewish Consumptive Relief Society, Denver; Member of the Advisory Board of St. Joseph's Hospital for Consumptives, Silver City, New Mexico. Series edited by Victor Cox Pederson, A. M., M. D. Lea Brothers & Co., Publishers, Philadelphia.

This is one of the Medical Epitome Series gotten out by Lea Bros. & Co., and edited by Dr. Pedersen. It is quite surprising how much available information can be put between the covers of a small book, and this present work is a good example of the fact. This series is intended to be composed of "brief manuals, as contradistinguished from mere compends," and the task is a laudable one in that it gives the busy doctor what he desires to know in concise form, yet sufficient for general needs. The book under review takes up clinical microscopy in very readable manner, covering the latest methods, and packs a great deal of urine analysis, chemical and microscopical, into small space.

THE PRINCIPLES OF BACTERIOLOGY.—A practical manual for students and physicians. By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Seventh edition, enlarged and revised, with 100 illustrations, of which 24 are colored. Lea Brothers & Co., Publishers, Philadelphia.

Dr. Abbott's book, now in its seventh edition, long since became one of the standard works on bacteriology, and each new revision has brought the subject up to date with the newest thought. In the present edition, the author has paid particular attention to the subject of infection and immunity, which in its development has become a question of important biological as well as bacteriological bearing. The author states that his section on methods, while not covering all the new technique, contains those procedures which have been tried and found trustworthy, a mode of treatment which will be appreciated by the average worker.

THE PHYSICIAN'S POCKET ACCOUNT BOOK.—By J. J. Taylor, M. D., Editor of The Medical Council. Published by The Medical Council, Philadelphia. Bound in leather, $1.

The accounts of the average physician are usually an annoyance to himself and everybody else. It is too much trouble to post from a day book to a ledger, and often money is lost by carelessness in this regard. Dr. Taylor has compiled a book which is the most complete and satisfactory that we have yet seen. It gives room for writing plainly the nature of the service rendered, instead of depending on signs, and is so arranged that every account is complete with the single daily entries. The greater part of the book is taken up with this form, but there are also obstetric, vaccination and death records and cash acounts. The new year is a good time to start such a book.

SOCIETY MATTERS.

MINUTES OF THE 92nd ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY

Held in Burlington, October 12 and 13, 1905.

First Day, Thursday, Oct. 12th.

The members of the Society met in the amphitheatre of the new Medical College at nine o'clock, and were called to order by the President, P. E. McSweeney, 15 members being present.

Prayer was offered by the Rev. Geo. Y. Bliss of the St. Paul's Episcopal Church.

The records of the last meeting were read by the secretary, and on motion they were accepted.

B. H. Stone, chairman of the Committee of Arrangements, made the following report:

REPORT OF THE COMMITTEE OF ARRANGEMENTS.

I have no particular report to make except to emphasize the notices which already appear on the program. I will say a word regarding the cars, however. You will find cars going by this building ten minutes before, ten minutes after and thirty minutes after each hour, and the cars leave the foot of Church street at City Hall, coming this way, on the hour, twenty minutes before and twenty minutes after. The cars going past this building have a white sign marked "Winooski."

I want to remind the ladies who are here, and I hope you will call the other ladies' attention to the reception at the Ethan Allen Club rooms on Bank street, opposite the old opera house, above Hickok's insurance office, from three to five this afternoon, and I hope all the ladies will be there.

To-morrow morning, we have planned a carriage drive for the ladies, and as there are several different rides, we should like the ladies to designate which one they wish to take. There is one to our new park, Ethan Allen Park, another to Red Rocks, and the third around the city, including a ride to Fort Ethan Allen. Carriages will be at the Van Ness House to-morrow morning and I hope you will all try to take the ride. The Ethan Allen and Algonquin Club rooms are open to the members of the Society.

The banquet will be held at the Van Ness House at 9:30 this evening, or as soon as the evening session is concluded. The ladies are most cordially invited to attend the banquet. The tickets will be on sale after this noon and can be procured from Dr. Hawley, Dr. Beecher or myself.

We have a number of drug firms and pharmaceutical firms represented and you will find their goods displayed in the rooms at the farther end of the hall. As they pay part of our expenses, I hope you will return the favor by going in and looking over their preparations.

Geo. H. Gorham then presented the secretary's report, which was accepted.

SECRETARY'S REPORT.

Mr. President and Members of the Vermont State Medical Society:—

In making this my fourth annual report I am pleased to state that the Society is in a most flourishing condition. The membership remains practically the same as one year ago, about 400. At the end of the third year since reorganization the probability is that quite a number will have to be dropped from the roll on account of non-payment of dues. By an effort among the officers of the different county societies I feel confident that these can be reduced to a minimum. On account of the small membership in the Orange County Society it has been abolished, most of the members having joined the society in Washington county and the remainder will probably unite with the Windsor County Society. I am pleased to state that the Windsor County Society has been reorganized and has at present 32 members in good and regular standing.

The mortality among our members the past year has been high, eight having passed on to join the great majority. One of the number, Dr. W. D. Huntington of Rochester, was a past president of our Society.

In fulfillment of the recommendations of your secretary in his last two reports the Committee on Legislation, in conjunction with similar committees from the Homeopathic and Eclectic Societies, secured the passage of the Medical Registration Act which provides for the examination and licensing of all physicians by a State Board of Registration. It consists of three Allopathic, two Homeopathic and two Eclectic physicians. Consequently the Board of Censors of the different societies have been abolished.

In more than one-third of the states and territories the state medical societies are publishing their annual transactions in the form of a monthly journal. I have received letters from the secretaries of quite a large number of these societies and without exception they heartily approve of the plan. The cost at first might be slightly more, but after the first year or two it would probably be cheaper than the old plan. It would have the advantage of having an opportunity of publishing much more matter than we are able to do at present and in the members receiving the papers quicker. I think that it would be well for the House of Delegates to take this subject under consideration.

Respectfully submitted,

GEO. H. GORHAM.

The treasurer, B. H. Stone, gave his annual report, which was also accepted.

TREASURER'S REPORT FOR 1904-1905.

Vermont State Medical Society

In account with B. H. Stone, Treasurer, Dr.

CR.

By balance in treasury Oct. 10, 1904	$119 97
By dues from county societies and miscellaneous sources	415 75
By examination fees from Medical Censors	275 00
	$810 72

DR.

To cash paid—	
Dr. J. S. Hill, Censors' bill (voucher 30)	$117 00
Dr. S. W. Hammond, Censors' bill (vouchers 31, 38, 40)	128 33
Dr. Henry Janes, Censors' bill (voucher 37,39)	111 00
Dr. G. H. Gorham, salary and expenses (voucher 33)	60 00
Expense of treasurer at Rutland (voucher 32)	8 40
Expense of stenographer at Rutland (voucher 35)	27 76
Berwick House, Drs. Monroe and Emerson (voucher 34)	3 75
Mailing Transactions, postage, etc. (vouchers 36, 41, 43)	34 75
Tuttle Co., printing Transactions (voucher 42)	240 61
E. L. Hildreth, printing programs (voucher 44)	18 00
Chas. E. Guild, stationery (voucher 45)	1 75
Balance in treasury Oct. 10, 1905	59 37
Credited and approved.	$810 72

J. H. BLODGETT, Auditor.

Burlington, Oct. 11th, 1905.

Unless you can make the county societies pay up more rapidly, we shall have to raise the fees. This year there were quite a numbr of outstanding bills which were left unpaid for five or six months. That was rather embarrassing for the treasurer, and many of the firms to whom this amount was due, did not like to wait for their money. These accounts have been examined and approved by Dr. John Blodgett, our auditor.

CHITTENDEN COUNTY.

The Burlington and Chittenden County Clinical Society held a special meeting Nov. 14, for the purpose of hearing Dr. Arnold Lorand, a specialist from Carlsbad, Austria, who spoke on diabetes, obesity, gout and gall stones. The regular meeting of the society will be held Nov. 29, when officers will be elected for the ensuing year, and the president will deliver the annual address.

The Vermont Medical Monthly

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ORIGINAL ARTICLES.

INIENCEPHALUS.

By Maud S. Abbott, M. D.,

Assistant Curator, Pathological Museum McGill University; and

F. A. L. Lockhart, M. B., Etc., Edin.; M. D., McGill,

Gynecologist to the Montreal General Hospital and to the Protestant Hospital for the Insane, Verdun; Lecturer in Gynecology, McGill University, Montreal; Professor of Surgical Gynecology, University of Vermont College of Medicine.

Fetal monstrosities always have been and always will be an interesting subject to the scientist. Although it has been the subject of of careful study for at least two centuries (before that, the investigations were too vague and entered too much into the supernatural to be of any real value), the cause is by no means definitely settled. The earlier writers ascribed them to some appalling object which the pregnant woman had seen or to the anger of the gods and the appearance of a monster in the family was supposed to portend all kinds of disaster, as if giving birth to a monster was not punishment enough to inflict upon any unfortunate woman. Maternal impressions have not been entirely dismissed from the list of causes. The writer was told quite seriously a few years ago by a medical man that one of his own children had been born with a deformity of one hand which he put down to the fact that the coachman whom he had employed at the time when his wife was carrying the child had a deformed hand and that his wife could not help gazing at this deformity whenever the man was driving. Again, as late as 1889, the editor of "The Cyclopedia of Obstetrics and Gynecology," in connection with a paper on "The Influence of Maternal Impressions on the Fetus," says that "there can be no question, we think, that there must exist some causal relation, although it is one of those hidden mysteries likely ever to remain beyond human ken." Cannot this causal relation be explained by the shock of seeing some unusual sight causing a contraction, either local or general, of the uterus? It seems to me as though this might be answered in the affirmative, and, if so, pressure upon the ovum would follow with a consequent injurious effect upon its growth. That pressure, change of position, etc., will materially affect the growing ovum has been proved beyond all dispute by Dareste,[1] who, in several thousand experiments, produced all types of monstrosity. In many cases, however, there must be something in the male or female germ itself which has an influence in the production of malformation: how else could those deformities which prevail in certain families, and which are almost characteristic of that family, be explained?

A monstrosity is defined by Geoffrey St. Hilaire[2] as a deviation from a specific type of a complex, very serious, viscious character, congenital and apparent externally. Before the time of St. Hilaire, there was no scientific classification of monsters, but he divided them primarily into (1) single and (2) composite.

A single autosite monster results when there is either an absence of a part of the elements of a single individual or some serious modification in the connection and disposition of these elements, their complete number being preserved. Single monsters are themselves subdivided into:

(*a*) Single autosite monsters which are capable of nourishing themselves by the play of their own organs. Here, only a lesser number of organs are affected, the remainder being normal.

(*b*) Single omphalosite monsters, leading to imperfect life carried on only by their connection with the mother and which ceases when the cord is broken.

(*c*) Single parasitic monsters, the most imperfectly developed of all, are inert, irregular masses lacking even an umbilical cord. They are implanted directly on the generative organs of the mother.

Composite monsters are those in which one finds united the elements, more or less com-

plete, of two or more individuals. They may be subdivided into (1) double and (2) triple monsters.

(*a*) Double autosite monsters are composed of two individuals, offering the same degree of development, both contributing to the common life and of which each is analogous to an autosite.

(*b*) Double parasitic monsters are composed of two very dissimilar and very unequal individuals, the one complete or almost complete, the other not only much smaller but very imperfect and nourishing itself at the expense of the first, of which it is a parasite.

The kind of monstrosity which forms the subject of this paper is included in tribe three of the orders of autosites in Sainte-Hilaire's classification, *i. e.* where the posterior part of the head is gravely modified:

(*a*) The brain is still existing but is more or less incomplete and is placed, at least in part, outside of the cranial cavity, which is itself more or less imperfect, *i. e.* "Exencephalia."

(*b*) The brain no longer exists but is replaced by a red tumor mass of vessels, *i. e.* "Pseudencephalia."

(*c.*) The brain is completely absent, the vault of the skull being deficient, *i. e.* "Anencephalia."

Exencephalia.—These are characterized by a deformed brain more or less incomplete and placed, at least in part, outside of the cranial cavity, which is itself very imperfect. This is the first link in a long series of genera which will lead us, by an almost insensible transition to the acephalic monsters. All members of this group present exencephaly more or less well marked, with the following genera:

A. No spinal fissure.

1. The brain is situated in large part outside of the cranial cavity and behind the cranium which is open in the occipital region, *i. e.* "Notencephalus."
2. The brain is situated to a large extent outside of the cranial cavity and in front of the cranium which is open in the frontal region, *i. e.* "Proencephalus."
3. The brain is situated to a large extent outside of the cranial cavity and above the cranium, the upper wall of which is wanting, *i. e.* "Podencephalus."
4. The brain is situated to a large extent outside of the cranial cavity and in front of the cranium, the upper wall of which is almost absent, *i. e.* "Hyperencephalus."

B. Spinal fissure present.

1. The brain situated to a large extent within the cranial cavity but partly outside of it, behind and a little below the cranium, which is open in the occipital region, *i. e.* "Iniencephaly."
2. The brain situated to a large extent outside of the cranial cavity and behind the cranium, the superior wall of which is lacking to a great extent, *i. e.* "Exencephalus."

In all the preceding genera (not—, pro—, pod—, and hyperencephalus), whether the vault of the cranium were open at only one point or almost entirely absent, the rhachidian canal still preserves normal disposition, at least in the greater part of its extent; some vertebrae, for instance the first cervical, could very well have been affected by a spina-bifida, but there was no external spinal fissure. The iniencephalia, on the contrary, as well as the exencephalia, are characterized by the very abnormal condition of their rhachidian canal, which is open either to a very great extent or in its entire length. The exencephalia and iniencephalia have also excellent distinguishing characteristics in the conformation of the cranium, the first resembling the hyperencephalia and the latter notencephalia.

Iniencephaly is very rare. Sainte-Hilaire only knew of one case. H. F. Lewis[3] collected twenty-two cases which he reported in the American Journal of Obstetrics in 1897. To this list, we are able to add six more, making in all twenty-eight. Of these, one very good undissected specimen can be seen in the pathological museum of McGill University, where also the mounted skeleton of the authors' specimen is preserved. In studying this series of cases, various points in common are to be observed. For instance, the three chief characteristics are occipital defect, spina-bifida, and fetal retroflexion. Out of the twenty-eight cases, the sex was mentioned in twenty-three and of these no less than nineteen were females. In six there was a superabundance of liquor amnii, while hydrocephalus was coexistant once. Seven of the fetuses had reached full term, two eight and one-half months, two eight months, one six months, one five and one half months and one five months.

The presentation was vertex in two, foot in two, face once and pelvic once. The monster was accompanied by a twin twice. In but one case was there any history of any woman having previously given birth to a malformed child and that was in case six, where the monster was the woman's fourth child, her first one having a spina-bifida, while the second and third were normal.

Lewis divides his cases into three classes. First those without any encephalocele, which he terms "Iniencephalus Clausus." Secondly, those having only a small encephalocele, those, with the latter, being true iniencephaly. Lastly, those cases where there is a large encephalocele but where the other characteristics of iniencephaly are so well marked as to leave no doubt as to their character. This class he calls "Iniencephaly Apertus."

INIENCEPHALUS CLAUSUS.

1. Ahlfeldt[4] reports the following case of Fleck's. The fetus was a female with tilting backwards of the head. The anus was much higher up the back than usual. There was no external tumor to be seen but there was a complete spina-bifida as far as the sacrum, a fusion of the cervical vertebrae and a wide opening in the occiput, the margins of which were attached to the transverse processes of the dorsal vertebrae.

2. There is one specimen in the museum of the Royal College of Surgeons of England.[5] The fetus is a male with distortion of the vertebral column, defective development of the occipital bone and but partial closure of the vertebral canal posteriorly. There is a wide rhachischisis of the cervical and first six dorsal vertebrae and the head is tilted backwards until the margins of the occiput and vertebral openings touch and have become united by ligaments. The frontal and parietal bones are very large while the supra-occipitals are rudimentary. There are only five cervical vertebrae and the laminae of these are fused together. There is a second spina-bifida in the lumbo-sacral region and both feet are the subject of talipes. Hydrocephalus co-existed in this case, there being no opening through which the dropsical effusion could escape from the cerebro-spinal cavity, which might cause the coverings of this cavity to stretch. This condition favors the theory of Dareste as to exencephalus being caused by vascular changes, being produced by compression of the defective cephalic covering of the amnion.

3. Coffin's[6] case was that of an eighth month child with a flat chest, scapulae in front of the lateral line and the head tilted back. The posterior fontanelle communicates with an opening in the skin. The spine is small and is curved anteriorly. The coccyx is absent and its usual site is occupied by the anus. The spine consists of three bones, between the first and second of which an opening leads into the cranial cavity. The posterior portion of the occiput is absent and the vertebrae articulate with the basilar portion. The third bone corresponds to the sacrum. The vagina opens very far back in the site usually occupied by the anus.

Dr. Evans' Case, No. 25. (Anterior.)

4. C. A. Yocum[7] reports one case in which the head is retroflexed almost to the sacrum. The rest of the fetus is similar to case No. 9, except that the abdomen is closed.

5. Landucci's[8] fetus is a female. The cranial bones are very movable and the head is tilted backwards, but the chin appears to be fused to the sternum so that the ears are just above the shoulders. The umbilical sac protrudes from the abdomen and contains coils of

intestine. The pelvis is tilted backwards and the anus opens on the back a few centimeters below the scalp. The frontal sutures are ossified. The parietals extend to the spinal column except for the intervention of narrow pieces of the occiput which are attached to the spine at the eleventh and twelfth dorsal vertebrae. The spinal canal is open as far down as the last dorsal vertebra but is covered by the overhanging cranium. A deep fissure containing the medulla, extends into the base of the occiput. The cervical vertebrae turn forwards and upwards so that the lower ones lie beneath the lower jaw. In the dorsal region the spinal column turns backwards. The lumbar vertebrae are better developed and each is complete but a small spina-bifida involves the last two lumbar and first sacral vertebrae. The bodies of the first nineteen vertebrae are fused and the ribs are irregular in shape and are partly fused together.

6. Ballantyne.[9] This was a still-born female fetus. It was the mother's fourth child, the first one having a spina-bifida. It measured 30 cm. in length and 19 cm. from the vertex to the coccyx. The occipito-frontal circumference was 31 cm. and the occipito-mental 34 cm. The head sharply flexed backwards on the trunk, so that the occiput came into close relation with the open spinal canal in the lumbar region. There was no indication of a neck. The abdomen was very prominent. A sagittal frozen section showed the spine running upwards and forwards towards the centre of the fetal mass. Several lumbar and dorsal vertebrae were absent and the occiput was wanting in the lower part. There was a slight lateral distortion of the trunk.

7. Ballantyne.[9] The fetus was a female measuring 23 cm. in length, the body alone measuring 14 cm. The head and trunk formed a rounded mass between 12 and 13 cm. in its antero-posterior diameter. The head was so sharply retroflexed that the skin over the occiput was directly continuous with that over the coccyx. The occiput was defective in the lower part. Many vertebrae were absent and the spine had a forward and upward direction so as to reach the centre of the mass formed by the head and trunk. The face looked directly upwards. The mother had hydramnios.

8. Ballantyne[10]. The fetus was born at the seventh month and was a typical example of iniencephaly. The mother was 42 years of age and a tenth para. One child died at the age of five of "trouble in the head," accompanied by starting and screaming at night and great wasting. At the seventh month, fetal movemonts stopped and the ovum came away entire. Incision of the sac allowed of the escape of about a pint of "pea-soup like fluid." The fetus was macerated and had an eighteen-inch cord.

9. Lewis'[11] case was one of uniovular twins of which one was a normal five and one-half months child and the other was the monstrosity. Both children presented by the feet. The malformed fetus measured eight and one-half inches in length with an apparent bending backwards of the spine so that the anus was only three-fourths inch from the back of the head. The face looked forwards and upwards and the cranium was turned so far back as to cover most of the spine. No depression existed between the chin and the thorax. Dissection showed that the parietal bones overlapped the upper two-thirds of the spinal column to which they were attached. The spinal canal was open from the upper end to the second lumbar vertebra and the cord could be seen lying at the bottom of the canal. The only abnormal cranial bone was the occiput, the squamous plates of which were represented by an acute triangle on either side of the basilar openings and which articulated with the parietals. The margins of the opening in the occiput were closely attached to the separated laminae of the cervical, dorsal and first lumbar vertebrae.

10. Rush Medical Museum specimen. The fetus was a female at full term.

Measurements:

Length of body	12½	inches.
Anus to cranium	2⅝	"
Length of leg	6¾	"
Length of arm	7⅛	"
Chin to perineum	7⅞	"
Bi-temporal diameter	3⅝	"
Mento-bregmatic diameter	4¼	"
Occipito-frontal diameter	4⅜	"

There was great tilting backwards of the head, so that the face looks forwards and upwards, leaving almost no sulcus beneath the chin. An opening in the abdominal wall, admitting three finger-tips, is seen at the umbilicus, the attachment of the cord being to the

left of this opening which is fringed by folds of peritoneum and through which coils of intestine protrude. An incision down the centre of the back shows a spina-bifida extending to the tip of the coccyx. The cranium extends to the lumbar region and is attached to the lateral processes of the vertebrae by ligaments. No encephalocele is to be detected. On dividing the ligaments and turning the head forwards, a rhachischisis of the cervical and dorsal vertebrae is seen, at the bottom of which lies the spinal cord with the brain on top. There is considerable lordosis of the cervical region of the spine and right scoliosis of the whole column. The openings in the occiput forms a large foramen magnum measuring 1⅝ x 1⅛ inches. In the lumbar region, there is a loose piece of cartilage the size of two split peas attached to the spine by ligaments. The anus is pervious and there is slight talipes affecting both feet.

INIENCEPHALUS APERTA.

11. In Duge's[12] case, the head seemed confounded with the thorax and turned back so that the occiput appeared lost between the shoulders. The anterior part of the neck is flush with the chin and sternum. Just below the occiput, on the back, is a small protuberance the size of a walnut, covered by a thin reddish membrane which continued down to the sacrum. The cranium is depressed and projects in front of the occipital opening. The face is oblique and projecting. Some of the cranial bones are welded together while others have cartilagenous areas. The upper occipitals are flattened and run parallel to the base of the skull. The spine is open posteriorly as far as the sacrum. Its cervical portion lies under the basilar process and its dorsal portion under the base of the cranium. The cerebral hemispheres lie within the skull, the medulla being in the occipital opening while the rest of the brain is in the fungous mass behind the head, from which come all the cranial nerves. Hernia of the stomach and the left lobe of the liver had taken place into the thorax through the diaphragm.

12. Potthof's[13] case shows considerable tilting backwards of the head with obliteration of the submental furrow. The head and body form almost one mass, to which are attached two long arms and two legs. The anus lies near the back of the head and quite a distance from the vagina. A small spongy tumor lies at the angle formed by the parietal bones and the dorsum. A complete spina-bifida exists and an opening in the anterior abdominal wall allows the escape of part of the abdominal contents.

13. Cruveillier's[14] case was that of a female fetus with its head strongly retroflexed upon the spine. There were two tumors behind the cranium, the chin was continuous with the chest, the nose was flattened and the ear deformed. The mouth looked as if a string were pulled tightly across it and the cheek was continuous with the palate. The first tumor was

DR. EVANS' CASE. (Posterior.)

just behind the sagittal suture and was divided from the second, which was to the right and below it, by a fibrous partition. Both of these communicate with the cranial cavity and are filled with membranes and a serosanguineous fluid. No trace of the squamous part of the occipital bone exists but the tumors protrude through the large opening between the parietals. These bones extend over the parietals and first four dorsal vertebrae which are cleft both anteriorly and posteriorly, thus forming double bodies. No basilar part of the occipital bone can be seen and there are only two rudimentary lateral occipitals, one on each side behind the temporals, forming extensions

of the cervical vertebrae. The sphenoid is the last bone of the cranium. The inferior borders of the parietals are attached to the transverse processes of the cervical and first dorsal vertebrae. The diaphragm is absent on the left side, allowing part of the intestines and the left lobe of the liver to enter the thorax. The left lung is compressed and the right lies partly in the neck. The stomach and duodenum are partly in the posterior mediastinum and the esophagus shortened and somewhat invaginated.

14. S. W. Drew and J. B. Jackson[15] report a case of a female infant which lived half an hour. It weighed five pounds and measured fourteen inches around the thorax. Club feet were present. There was no neck furrow and the arms were very long. The uvula was cleft and the lungs were irregularly fissured. The brain appeared at the upper part of the spine, looking red and vascular, and the size of an English walnut. A large mass of brain had remained within the cranial cavity. The spina-bifida was complete and there was a separate cord on each side of the spinal canal communicating with the medulla. The occipital bones were joined to the spinous processes of the vertebrae as far down as the first lumbar except on the left side where there was a considerable deficiency. The antero-posterior spinal curve was excessive, the upper dorsals and middle lumbar forming prominent points, the pelvis and ends of the ribs being thus brought into close proximity with one another. The cranial cavity was quite capacious, leaving considerable space between the frontals and the parietals and the base of the skull. The basilar and lateral processes of the occipital bone were well developed. The posterior portion consists of one piece on each side, sending a narrow process around behind the parietals to meet its fellow of the opposite side. The spine is curved antero-posteriorly and laterally and the thorax is very prominent. The anterior half has no connection with the ribs. On the left side, seven of the ribs are partially fused, while the twelve on the right side are chiefly separate.

15. Lawther[16] reports a case in which the fetus was a macerated female. A longitudinal section was made into the vertebral column and the two halves were drawn to one side. At the middle of the transverse line joining the apices of the shoulders, the spine curved downwards and forwards, the cord embedded in the centre. The cervical vertebrae were only represented by a cavity extending up into the floor of the cranium and into this cavity the curve of the spinal column projected. The occiput was only represented by a narrow osseous arch connected with the parietals. There was no cerebellum and only an imperfect cerebrum in the form of a thin covering of brain substance enclosing an indefinite cavity. The only visible nerve was the optic. The diaphragm, mediastina and pericardium were absent. The pleura was continuous with the peritoneum and, after investing the organs, passed into the funis, forming a pouch at the placenta. The cord measured less than four inches. The esophagus ended in a blind pouch, the stomach being absent. The lungs were rudimentary but the kidneys were large.

16. Vernier's Case.[17] The mother had hydramnios and the child was born at the sixth month. There were spina-bifida, a tilting backwards of the head and a pouch, containing brain matter, behind the cranium. The two halves of the occipital bone did not meet in the middle line but were attached to the lateral parts of the upper cervical vertebrae. Cyclops and club feet were also present.

(To be continued.)

RETROSPECTION AND INTROSPECTION.*

By Don D. Grout, M. D., Waterbury, Vt.

To say that this is one of the proudest events of my life is putting it mildly for I consider it a great honor to be selected from the six or seven hundred Vermont physicians to appear before you in this capacity and at this particular time.

It will always be an event, in your professional lives, to be recounted time and again, that you were a student in the Medical Department of the University of Vermont, always an honor to any man, but one long to be remembered on acount of this event being the dedication, as far as practical use is concerned, of this magnificent building, probably the equal of any in New England. The complete and thorough medical education of today re-

*Address at the opening of the 53rd annual session of the University of Vermont College of Medicine, at Burlington, Dec. 2, 1905.

quires not only competent teachers but an equipment that to the older members of our noble profession during their student days was unattainable, and in many respects, unheard and unthought of.

The contemplation of the truly wonderful advancements and achievements of medicine and surgery in recent years very frequently brings about in me a retrospective frame of mind, and memory carries me back to an event of my life which occurred exactly one-third of a century ago, when I, a youth of twenty-three years, triumphantly walked out of the old mill at the opposite end of the campus, made proud and satisfied by the assurance from the dean of the faculty, Prof. Peter Collier, that I had successfully passed the examinations in the various branches of medicine that would entitle me a few weeks later, to the coveted sheep skin, for which I had so long been struggling, and hurriedly took the first train for New York City, there to fill a vacancy in the staff of the old King's County Hospital, untimely and unexpectedly made vacant by the sudden death from typhus fever, a disease that probably but a small proportion of these classes will ever meet with, of a young physician who had died for men.

I hope I may be pardoned if you consider it egotistical when I say that with eyes wide open, and fully realizing what the result might be, I walked into the epidemic of small pox and typhus fever, then prevailing in the city, the equal of which has never been seen there since. Four of us, unaided by a visiting or consulting staff, as is the custom in all well regulated hospitals today, treated sixteen hundred cases of the former disease and many scores of the latter. We were given a free hand in the treatment of our cases with none to molest or make us afraid, with the possible exception of the hospital superintendent, a young man only a very few years our senior, who usually contented himself with his administration duties and the assignment of patients to the various wards. These patients were representatives, good and bad, generally bad, of nearly every civilized country on the globe, and were afflicted with every disease, with the possible exception of cholera, yellow fever and the plague, that the most voluminous text books ever recounted.

To be sure we had a consulting staff of very eminent physicians and surgeons, but I assure you that we never saw one of the physicians inside the hospital grounds and only semi-occasionally any of the surgeons, and when they did come it was not to give us the benefit of their skill in their art by actual demonstration, but to content themselves by standing around with unsoiled hands and possibly offering mild criticism when we inadvertently severed some large artery that came in our way.

When I tell you that the first leg that I ever saw amputated I amputated myself in this hospital and under the eye of Dr. Hutchinson, then the most noted surgeon in Brooklyn, and when I tell you that the only suggestion or criticism he made from first to last was that I amputated it by the flap method after I had been advised by the superintendent and had posted up on the circular operation, and once during the operation he mildly said, "Don't get nervous, young man," you will conclude that he let me down easily.

You will doubtless conclude that either I am drawing the long bow, or that the hospital was one for outcasts and run by heathens, both of which may possibly have been true; but that it was managed very differently from most large hospitals of that day is untrue. Two years ago I had the honor and pleasure of seeing Prof. Lorenz of Vienna perform his bloodless operation for congenital dislocation of the hip joint in this same hospital and in one of the finest operating rooms in Greater New York.

The practice of medicine and surgery at that time was no more uncouth and unscientific than was the teaching. How well I remember as I sat upon the benches in yonder building as a medical student at my first course of lectures, how well I remember my confusion as to what I had better do. Aghast at the multitude of subjects for study: overwhelmed by the numerous lectures passed into my ears each hour by a fresh professor; with no one to guide, no rule to follow, no law of selections to consult, no classification of terms, or years of capabilities whatever, what wonder that we underwent a mental surfeit whose consequences tortured our future rest with a nightmare of unassimilated knowledge. Four busy months the course went on with unabated ardor, and then the bulk of the class dispersed,

to follow out, with intermittent and languid diligence, their studies during the remainder of the year. The first year's student pursued there the same studies as the third year's one, and if he finally learned what branches to select, it was only at the expense of many wasted weeks or months. Any one department of medicine, as anatomy for instance, crowds the beginner with such a mass of isolated facts, that it is several years before he can assort and generalize them for use. But the unfortunate student of former times had all departments thrust upon him, at once, to choose from without a guide, and to confuse him with their multifarious details.

Now all is changed. Instruction is uniform and continuous throughout nearly the entire year; and progressive through four years. Studies and students are classified and divided into a four years' course. Examinations are distributed throughout the four years. The mode of teaching is more demonstrative, practical and experimental and less didatic than formerly. Lectures, recitations, and practical exercises are all used as modes of instruction while demonstrative and experimental study, in the dissecting room, chemical, bacteriological and physiological laboratories, microscopic and autopsy rooms, and clinical study in the hospitals are today to a large extent supplanting the purely didactic lectures of thirty years ago. Then there was not even an apology for a hospital in Vermont and only occasionally one in the larger cities. Clinical study, outside the few large cities was unattainable.

This is not the hour in which to discuss the merits of demonstrative and experimental as compared with didactic instruction, clinical teaching with prepared and systematic lectures; or recitations in which the student takes the active part, with lectures *ex cathedra* where he merely listens and receives ideas. There can be little doubt that what we do is fixed by the doing more firmly in the memory, than what we see others do; that what we see makes more impression than what we hear; that what we learn to express in our own language is retained better than what we are taught by listening to others. That one may be successful in the study and practice of medicine it is essential that he have a good preliminary education. The mind which has lain fallow during the impressionable years of youth is ill adapted to catch new ideas. It is sluggish to learn, tardy to acquire, and does not know how to use its faculties although its memory may be retentive and its powers of observation acute. As a rule, men beginning a profession under the drawback of want of training do not arrive at distinction. It is rare to step directly from the plough or the workbench to professional eminence. Such cases are instances of genius which rise to the surface in spite of obstacles.

The average mind, then, needs culture and training before beginning to study medicine. This preliminary education, however, need not be either academic or collegiate. In fact, the strictly classical courses of many colleges are ill adapted to prepare the mind for medicine. In our profession two qualities are especially needful; a quick preception and a well balanced mind. Observation and judgment constitute the true physician. No other learning con compensate for the lack of these; and with these, a relatively ignorant man will succeed. We cannot read the sick by book knowledge; we must study them as children learn, by observation. The diagnosis and treatment of disease are a balance of probabilities and cannot be successfully carried out without judgment or common sense. Whatever studies, then, cultivate the preception and judgment constitute the best preliminary education for the medical profession.

To the beginner, the study of medicine, even the improved modern methods, with the time extended from two to three, then from three to four years in which to compass it; with its formidable array of subjects, consisting of chemistry, anatomy, physiology, pathology, bacteriology, materia medica, medical chemistry, surgery, science and practice of medicine, therapeutics, obstetrics, medical jurisprudence and specialties; we have a four years' course well provided for. And when the eventful hour has come that you begin your career as a doctor what more is needed before you precipitate yourselves upon a credulous and unsuspecting public? At least a year's experience and observation in some good hospital. In my opinion it should be a criminal offence for any physician to go directly from a medical school into general practice, unless perchance he may have an opportunity to work for a time as assistant with some good practitioner, and even this is a very poor substi-

tute for the knowledge and experience that can be gained in a hospital.

Preliminary education, medical education, hospital experiences, and then—what? Practice, certainly; and it will be slow to come. Earlier in the country village than in the town; earlier in the town than in the city; while in a large metropolis an average lifetime is two-thirds spent before the harvest season can be reached. Slow enough and hard enough anywhere; yet, if you persevere, it will come at last. But whether in your earlier and poorer, or your later and successful years, you will need something more than practice. Medicine is not a trade, and if you make it one you will bitterly repent it. It is not a calling in which to grow rich. It can never command the enormous income of the eminent lawyer, even when the practice lies in a large and wealthy community; while ventures and receipts of business men dwarf our year's earnings by one happy speculation or one large sale. If you seek for wealth you have mistaken your vocation. The majority of you will earn a respectable livelihood after from five to ten years of waiting and poverty. Add to this delay the outlay of your education and the return for your investment will be very small.

Whatever your success, you will absolutely want something more to make your profession even tolerable to you. Bear in mind that ours is the most laborious and wearisome of callings; the slowest to rise; the easiest overthrown by ill reports; dependent on the caprice of women; subject to the indignities of doubt and rejection of patients; full of responsibilities, which grow the faster as you ascend the social scale. The doctor is the bearer of other peoples' burdens; the confidant and advisor in other peoples' sins and woes; the anxious watcher, whose mind is never free from a round of sick cases; the man who can never be his own master. For years, while you still trudge on foot, you will be covered with the dust of the charlatan who rolls by you in his chariot. For years after you have begun to lose a little, week by week of the buoyancy of youth, you shall be stigmatized as "such a very young man!" The older you grow, the harder you shall work, and your office bell shall never cease to call you until your ears are closed in death. For your hands will be reserved tasks before which a scavenger would recoil. For you, other peoples' sufferings shall be constantly your own. Your cruel calling shall compel you secretly to watch the progress of hopeless disease, while you must sustain hope until the last. You must not only witness the sad partings of death, but on you will devolve the duty of telling friends that all chance of life is past. To you, in your rides, shall come home the terrible questions, after a sudden and unexpected fatal result, "could I have known more, or done more?" To you may sometimes come the harder reflections of friends, that you mistook the case. And to you it shall often happen, after success has crowned your efforts, and your patient has gotten well against hope, to meet with the lowest ingratitude and to have your bill disputed in the end.

In spite of all this, the tide of students never ceases, and the profession is crowded with young doctors, year after year. What feeling calls them? What sentiment can sustain them in after life? Money is not to be largely received. Practice alone is not enough. There must be something more and something higher. That something is a love of your profession; a passion for science for its own sake; a broad humanity, which covers all the sick with a mantle of charity. Hold fast to that love and that science, if you would not sink from weariness in your earlier years, or find the fruits of success but chaff, in your old age. Never lose sight of that motive, for if it once takes flight your profession is reduced to a trade, and there is absolutely nothing left. As long as you can keep alive the sacred flame of this early passion which first called you to embrace the medical profession, so long shall you be warned, sustained, upheld amid disappointment, unjust treatment or reverses. I assume that force of circumstances, or possibly inclination will make most of you what is termed "country doctors." Much has been said and written regarding the relative merits of the country doctor and his metropolitan brother. One writer recently characterized the country physician as a man who could do little and think less.

Dr. Geo. F. Shrady of New York, late editor of the Medical Record in speaking upon this, said, "We are so constantly receiving, from all parts of the country, just protests against the idea, that we are willing to take

a side in the argument. Statisticians have not yet proved that brains are indigenous to any particular region. In fact transportation being just as cheap for a full, as an empty, head, there is no embargo on the freest possible distribution of the commodity over the country. At least they have been bobbing up quite promiscuously and plentifully over the general fields of medical literature, and make as good showing in one locality as another."

The quality of grain can speak for itself if left to itself. It is not the question where you come from so much as who you are. The seed always produces its kind, and generally the harder the soil the sweeter the fruit. Emergencies and surroundings are everything to bring out the qualities of mind or body. Nothing quickens a man's preceptions more certainly, or develops more surely his inner practical resource, than the consciousness that he has to think with his own brain and act with his own hand. Thinking, and hard thinking at that, becomes a habit with such men, and the working out of their own salvation is an acknowledged necessity. All other things being equal, the only difference between the metropolitan and rural practitioner is the surroundings; the former is in a position to have plenty of help and very many, if need be, to think for him; the latter is generally alone in an emergency and has to do his own thinking.

The country doctor's mental guy-ropes are his own experience and that of the marshalled authorities in his library; the metropolitan practitioner can, if he chooses, fasten the different tendrils of his web to the door-posts of all the experts and specialists in his neighborhood. Counsel in the city is the rule, in the country it is the exception. The country doctor is expected to be ready for anything, and he generally is. Besides being a student he is to be thoroughly practical in all his methods. He has not, it is true, all the modern appliances at his command. One old fashioned speculum may do all the business of two or three generations; occupying large and small compartments alike; common to young, middle aged, and old; changing in office from the grandmother to the granddaughter, yet the average of cures for leucorrhoea, abrasions of the os or cancer of the cervix, may even equal that obtained in the Woman's Hospital.

The same might be said of the departments of practice. He cannot pick his instruments from hundreds in the hospital closet, cannot have skilled assistants, nor has he skilled attendants to watch for temperature rises, secondary hemorrhages and the like. His fracture cases are generally miles from his office with no friendly assistance at hand to loosen the damaging grip of an unyielding bandage. It goes without saying that the country doctor must of necessity learn to help himself, and if he cannot do it with his brains he certainly cannot do it with his hands. The instrument is one thing, and the brains behind it another, and alas! very often we may say vice-versa. The hard, square thinking generally strikes the balance the right way. During his solitary drives he must do mental sorting of his cases and place each in its own category. And here is where the thinking must come in, and where seeming difficulties must smooth themselves to the common sense level of practical experience.

It is within the experience of many a country doctor that between miles of drive he may meet, single-handed, every variety of disease in any of the different departments of practice. At one end of the road may be a breech presentation, at the other herniotomy. His ear must as perfectly recognize the crackling rale of an ominous pneumonia, and the husky sibilance of an urgent croup, or the grating crepitus of a fractured bone, or the clicking ring of sound and stone. To string these varied experiences into consistent practical work, requires something more than shallow reasoning or careless guess work! And yet painfully realize that this is the ordinary business of the general practitioner in the country. It is this training, forced upon him by circumstances, which must necessarily make him a reasoning practical man. He is beau-ideal of a general practitioner, forced to be ready for everything, and afraid of nothing. The whole body belongs to him, and he does his best with each part. Every subject connected with disease must necessarily interest him. He is perforce, a reader, a thinker, and a doer. His very habits make him the best judge of the practical work of others, as he must weigh the evidence in favor of new methods before he dares assume the responsibility of their trial, as he alone will be accountable for evil results.

It does not matter how much of the lung is involved in inflammation, the patient's friends

watch for the fever to be reduced. Nor do they care to know the character of a urinary cast so long as proper diuresis is induced. The cause of diarrhoea is of no interest to the patient if the discharges are not stopped. The man with retention of urine may never have heard of the prostate gland, but he wants to urinate. The good woman with the momentary expectancy of maternity does not care for the presentation so long as she can get the baby in good time. In all cases he is brought face to face with his patients. He must treat all their diseases, and with reasonable success. To do this requires some intellectual effort. If we judge only by the results, we are free to make comparisons. Certainly his statistics do not perceptibly weigh down the mortuary record. Unfortunately the country doctor does not often assert his claims, but when he does write something it is worth reading for he founds his observation on what he has seen, what he knows he has thought out for himself.

Julian Hawthorne has said of the country doctor, "he is one of the most entertaining people in the village, for however closely he may be allied with his patient, in the community he must be to a greater or less extent, a man of the world." The time you may spend with him will surely not be thrown away—unless, indeed you visit him in his professional capacity; then it will all depend upon circumstances. His knowledge of the inside of his fellow-citizens seems to assist him in observing facts connected with their external environment; he is comparatively free from prejudices, and his opinions upon things in general are dictated by solid common sense. His profession tends to sharpen his insight into human nature, and, if his own nature be sociable and humane, he forms many agreeable acquaintances wherever he goes. In the seclusion of his rural study, shadowed by the elm-tree on the lawn, and rendered fragrant by the lilac bush under the window he cons over the latest discoveries of science, and meditates wisely and discriminatingly upon politics, literature and art. He is amiably skeptical, and he is cheerful by force of professional habit; you can scarcely surprise him; and he will easily detect you, and demurely satirize any tendency to indulge in the Munchausen vein. He is not a wealthy man, and most of his fees are paid in commodities other than coin, when they are paid at all; yet he has enjoyed life, and has the consciousness of having been of some benefit to his fellow-creatures, if only by removing them to a happier sphere. But if he be the best man in the village, the reason is, it must be confessed, because he belongs to it only in the physical sense; his mind and faculties and his higher sympathies have a far wider range.

Much has been said and written regarding the effect of the study and practice of medicine upon the doctor's religion, or lack of it. If to serve one's fellow-man be the essence and the end of religion, no one is more devout than the doctor. If as most men think, religion includes also something spiritual, a duty to God, a reverence for things eternal, a faith in the unseen and undemonstrable, then doctors are, many of them, lacking. Every profession has something in it which tends to drag the man down from higher planes. The clergyman is in danger of losing manliness and liberality of thought; the lawyer, a fine perception of the absolute value of right and wrong; the doctor, his faith. The doctor sees so many promises fail, hears so much that turns out false, and reads so much that proves to be rubbish, that as he passes on in life he becomes more and more inclined to base his convictions only on that he has himself seen or known. What wonder that he sometimes doubts the beneficence of misery, and the utility of piety, or questions if the human wrecks that he meets have been ennobled with immortality, or stamped in the image of God.

While we trust that the spirit of benevolence and kindness is not growing any the less among the profession, there is a possibility that reverence and faith are being supplanted, in a measure, by indifference and agnosticism. This is in accordance with a tendency, we will not say of the age, but of the period. If it is a fact, it should excite deep regret and call for earnest protest. Mr. Jonathan Hutchinson in one of his addresses to medical students, once said faith was the most essential element of success. Taken in its largest meaning, nothing is more true, and nothing is more worthy of being impressed upon the young physician's mind. It is this object in living. Agnosticism is a cancer which eats into the moral fiber, deadens the higher impulses, and takes away half the joy of living and half the chances of the successful and useful life. We say, then:

let the physician think what he pleases, but let him believe and hope, leading withal a reverent and truthful life.

In closing, allow me to most heartily congratulate you who were fortunate enough to have been born in Vermont, and to you who were denied that good fortune, I want to say that you have shown uncommon good sense to come to this department of the University of Vermont to obtain your medical education. Prince Bismark has been quoted as having said: "I would like to give you my idea of a republic. I think you will grant that I am somewhat of a student of political history. My idea of a republic is a little state in the north of your great country—the smallest of the New England states—Vermont." At this one American said "Not Massachusetts?" And the man of iron replied in these words: "Ah no. Vermont is small in area, of slow growth, has a larger percentage of school attendance than any other state, is not devoted to manufactures nor so much to farming as to make its interests political, owes nothing to the general government for Civil War expenses, and aims primarily and purely at the educational and religious evolution of each individual. Is it not true that this little state keeps its senators and representatives in office term after term until they die?" Filled with pride in their state, one of the visitors then said: "Your excellency, two of us are graduates of the University of Vermont, and one of us claims that state as his birthplace." Bismark rose and said: "Gentlemen, you should be most proud of your inheritance. To be a son of Vermont is glory enought for the greatest citizen."

THE NEED OF SANATORIA TREATMENT FOR THD CONSUMPTIVE POOR.*

By Ellis G. Roberts, M. D., Fair Haven, Vt.

The care of the consumptive poor and working classes has become such an important problem that it is demanding the attention of most of the civilized countries, for the reason that many valuable lives are annually sacrificed and consequently great monetary loss sustained for the want of means of carrying out a treatment which, taken at an early period of the disease promises a certainty of cure in a large number of cases. Therefore I do not feel called upon to excuse myself for taking this important subject as a text for a few brief remarks. My experience with this class of cases has very strongly impressed me with the crying need of a sanatorium treatment for pulmonary tuberculosis, not only for the cure of the patients themselves, but for the protection of their families and the public—and as the only adequate means to successfully combat the ravages of the "white plague of the North" as it is called. No doubt much good has been, and is being done by the home-treatment, and possibly some cures are effected. That is possible among the intelligent and well-to-do, but among the poor and working classes my experience has been that it is almost a hopeless task to educate and discipline them to follow the instructions with the exactness and faithfulness required to produce good results.

Pulmonary tuberculosis is the most prevalent and formidable type of tuberculosis. It attacks the rich and the poor, but the poor are the most liable to its attacks, for very apparent reasons which I need not enumerate. If it attacks the rich, they have the means to get help early in its incipiency. They are able to follow the advice of their physician, whether hygienic, dietetic, or therapeutic. They are not bound down by the cares for the morrow, or the want of funds, but are able to take advantage of the many excellent institutions available to them in the different parts of the country, but which are entirely out of reach of the poor. With the working man as a rule, it is entirely different. Depending on his daily wages to provide for himself and family he will keep on working long after the disease has invaded his system and as long as his strength will hold out, for, if he stops working, his means of living stops. So he struggles on with weakened lungs and impaired vitality until from sheer exhaustion tired nature calls a halt, and he calls for help. Usually at this time it is found that the tubercular lesion is too far advanced to have much hope of a cure, and we have to watch him slowly decaying away, without being able to do anything but try and smooth his pathway to the grave.

There are three facts in relation to pulmonary tuberculosis which are well estab-

*President's address before the Rutland County (Vt.) Medical and Surgical Society.

lished, and which are also in my opinion strong arguments in favor of the sanatorium treatment.

1st. That it is contagious.

2nd. That it is curable.

3rd. That the best treatment for it is what may be termed hygieno-dietetic.

These I shall briefly notice.

1st. That it is contagious. Wherever there are tubercular bacilli there is danger of contagion and of all bacilli they are the most resistant. Repeated dessication does not kill them, neither does humidity or putrefaction or dry heat up to 212°. According to Prof. Grancher and Dr. Thoinot of Paris, it requires an exposure of the bacilli to moist heat at a temperature of 212° F. for two months to destroy them, or the prolonged action of a caustic solution of carbolic acid. Millions of these bacilli develops in the sputa of the tuberculous and unless it is properly taken care of, it becomes a menace to the health of the community. How can this contagion be taken care of? There is only one sure way. By isolating the patient and assuring the destruction of the sputa and its bacilli. Of course, at present it is impracticable and probably unnecessary to isolate all consumptive patients but the sputa should be thoroughly disposed of in all cases. This, no doubt can be accomplished in the home of the intelligent and rich, but I have found it practically impossible to get the average working man to carry out the instructions with the care and thoroughness required, and I feel certain that the best, and the only way in the majority of cases, to contend with this contagion is by means of the sanatorium with its isolation system and thoroughness.

2nd. That is is curable. As far back as 1881 Prof. Jaccond of Paris said "pulmonary phthisis is curable in all its stages. This is the fertile idea that dominates all the history of the malady and which ought to incessantly inspire and direct medical action." Another eminent authority says, "it is the most curable of the chronic diseases." This is confirmed by the reports of results obtained at the various institutions and also as revealed in autopsies where advanced tubercular lesions have been found healed? What are the best means to effect a cure? An early diagnosis is of the first importance; then get the patient as soon the treatment is instituted the greater, the probability of a cure.

3rd. That the best treatment for pulmonary tuberculosis is hygiene and diet with judicious medication. The hygiene should be, as one author puts it, "the hygiene that prevents the predisposed from becoming tubercular and the tubercular from being more tubercular." This can only be accomplished by constant and regulated aeration, day and night, and plenty of sunshine; by a generous and vigorous diet; by prolonged rest and sleep; with regulated exercise, and all these under expert supervision. This is well nigh impossible with the home-treatment especially of the poor and working classes, and what we need is a sanatorium or rather a number of comparatively small sanatoria situated in different parts of the state.

Although we have a large number of institutions in this country for the treatment of tuberculosis I believe we are behind some of the European countries in the care of the tuberculous poor. Germany has a large number of sanatoria devoted to the consumptive poor only. France also has a large number of institutions of this character and the agitation for more is strenuously and energetically carried on. In Switzerland the campaign against tuberculosis is carried on most vigorously, and with the building of the sanatorium of Schwendi on the northern bank of Lake Thoune in 1894 as a commencement, almost every canton has an establishment designed for the consumptive poor. This grand work was brought about through the fraternal co-operation of all classes, the different societies and the several religious bodies, Protestant and Catholic gererously contributing. They have worked so well together that Dr. Leon Petit says "that the national coffer for the consumptive poor of Switzerland is likely to become one of the most useful social institutions of the century."

In Russia, the sanatoriums of Orienbaum and Halila in Finland are destined for the consumptive poor. The emperor, Nicholas II, gave to the Medical Society of St. Petersburg the sum of 1,500,000 francs ($300,000) and a magnificent property for the purpose of establishing sanatoriums for the same purpose, these establishments to be supported by collections in the churches of the capital. In Sweden, King Oscar on the occasion of the

twenty-fifth anniversary of his coronation gave a sum of $600,000 for the construction of a number of sanatoriums destined for the consumptive poor. Again in Holland this noble example was followed a few weeks later by the young queen, who on the occasion of her coronation gave a sum of $80,000 and a magnificent estate to be used for a sanatorium for the tuberculous poor. In Denmark, the medical society, under the rector of the university, and having the support of the king who gave the necessary land, has constructed two sanatoriums, one for those able to pay, and the other free, the latter to be supported by the profits of the former.

In Canada the government has given an immense area of land to a medical society for the purpose of erecting a sanatorium into which the rich and poor consumptives will be admitted, it being understood that the rich shall pay. In Austria, through the persistent efforts of Prof. Schrotter of Vienna, the sanatorium of Alland has been erected for the treatment of the tuberculous poor, which is supported by the state and private bounties. In England there are no sanatoriums strictly so called but there are a large number of special hospitals designed for consumptives in which the hygienic and dietetic treatment is very thoroughly carried out. These are supported by subscriptions and collections, the most notable ones being the Brompton Hospital near London and the magnificent, if not the ideal one at Ventnor, Isle of Wight.

I do not know of any absolutely free sanatoria in this country with the exception perhaps of the Henry Phipps Institute in Philadelphia which is a private charity and is doing great and good work. There are other excellent institutions, notable examples of which is the Trudeau sanatorium at Saranac, Adirondacks and the one at Rutland, Mass., which have done, and are doing splendid work for the tuberculous, but which are either too far away or too expensive for our consumptive poor of Vermont.

What we need is a sanatorium, or a number of them in our state, either absolutely free or with only such a nominal charge, that our consumptive poor and working classes can have the benefit of what, so far, is the only treatment that has proved successful in ameliorating or curing their condition. And in conclusion I am constrained to say, that with due deference to the generous and indeed munificent gifts of some of our multi-millionaires, I cannot help thinking that if a portion of the vast sums endowed for educational purposes had been devoted to free hospitals and sanatoria for the poor and consumptive their names and memories would be more blessed in this and future generations.

New Work in Serum Therapy. — It is announced that the Memorial Institute for Infectious Diseases of Chicago has established a serum division as a branch of its scientific and experimental work. This division will undertake the preparation of various curative and protective serums, and will also prosecute investigation into some of the problems of immunity and serum therapy. In connection with this work it is expected that a limited amount of diphtheria antitoxin will be available for distribution at cost. Prof. Edwin O. Jordan, of the University of Chicago has been placed in charge of the serum division and preparations for the new work are now well under way.

Epidemic Cerebrospinal Meningitis in Silesia.—It is reported that during April 1,200 cases of epidemic cerebro-spinal meningitis occurred in Upper Silesia, with a mortality of approximately 50 per cent.

Statistics of Cremation.—The French Society for the Encouragement of Cremation has recently held its annual meeting in Paris. The secretary reported that there are now ninety crematories in Europe and America in which so far 125,000 bodies have been incinerated. There are nine crematories in Germany, in which during the past year 1,381 bodies were burned, a gain over 300 over the previous year. During 1904 only 354 cremations were carried out in France. This method of disposing of the dead is becoming more popular in South America, and 370 cremations are reported from Buenos Ayres during 1904.

A remarkable decrease in the number of deaths from tuberculosis in the larger cities of Prussia within the last two decades is recorded. In 1886 the death rate in cities of over 100,000 was 37.6 per 10,000, while in 1902 it was only 22.

The Vermont Medical Monthly.

A JOURNAL OF REVIEW, REFORM AND PROGRESS IN THE MEDICAL SCIENCES.

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Burlington, Vt., December 25, 1905.

EDITORIAL.

With the discovery of the *Spirochaeta Pallida,* it seems that at last the etiological factor in syphilis has been discovered although much remains to be done to prove this relationship. With every other class of communicable diseases discovery of the cause has led to a great reduction in the prevalence but the experience with gonorrhoea gives little promise for such a result with syphilis. The venereal diseases concerning which Osler says "these are in one respect the worst of all we have to mention (referring to infectious diseases), for they are the only ones transmitted in full virulence to innocent children to fill their lives with suffering, and which involve equally innocent wives in the misery and shame," are in a class by themselves. Obligatory notification, which is the first essential to any scheme of sanitary control, is impracticable. Any material lessening of these diseases must be accomplished by education in regard to the seriousness of their consequences and the method of personal hygiene and prophylaxis. It is inconceivable that so many young men would voluntarily expose themselves to infection if fully aware of the fearful consequences to themselves and their families which are likely to follow the contraction of these diseases. The fact that two international congresses for the prophylaxis of syphilis and other venereal diseases have been held in the last two years and that a society has been formed with this object in view is encouraging. The circular adopted by the Conference of State and Provincial Boards of Health and recently circulated in many states, our own included, is a long step in the right direction.

Medical literature has of late been full of reports on scopolamine as an anesthetic. Most of these reports have been favorable to its use, the specific advantages cited being its harmlessness, the absence of the stage of excitement, the absence of nausea and other distressing after effects and the long duration of sleep after operation. But now, when we are almost convinced that an ideal and harmless anesthetic has been found, come several foreign reports of fatal results following its use. Landan (Deutsche Medizinische Wochenschrift) has collected records of thirteen fatal cases following anesthesia by this means. Chevalier reports two fatal cases. This all goes to show that it is advisable to be extremely prudent in the use of these powerful drugs. Anesthesia from any cause is an approach to the danger line and until thorough familiarity has been acquired with this anesthetic agent some accidents must be expected. This drug should not be condemned at this time on the evidence of these few fatal cases. Neither should it be accepted unreservedly and used promiscuously until it has withstood a much more thorough trial than it has as yet been subjected to. It behooves the average surgeon to suspend judgment and refrain from the use of the drug until its advocates can bring an indisputable array of cases to its support.

At the recent meeting of the Vermont State Medical Society the following was offered as an amendment to the by-laws:

On and after ————, no member of this society shall accept the position of club, society, or organization physician, or agree to do any medical or surgical work for any club, society, or organization at a less rate than the regular or customary charge for like services rendered by other physicians for patients not members of such club, society or organization.

Further, in no case shall any physician agree to attend the families of the members of any club, society, organization or families of employees of any corporation or firm at a less price than the regular rates charged for like services rendered by other physicians to families of persons not members or employees of such club, society, organization, corporation or firm.

Nothing in this section shall be construed as preventing any member from attending the worthy poor at a less rate or to give free service to those who are too poor to pay anything, or from acting as city, county, or town physician, health officer or under any political appointments.

Any violation of this by-law shall be considered unprofessional conduct, and render the member guilty thereof liable to suspension or expulsion from this society, as the society may determine.

After some discussion it was voted to lay the amendment on the table and a committee was appointed to consider the question and confer with other state societies. Articles similar to these have been presented in many states. It is quite evident from the way in which the question has been received that contract practice is common among the members of many of these societies. In general, any action which tends to foster uniformity in professional fees is to be commended. This action by the State Society is important and should be thoroughly discussed. There are undoubtedly arguments on both sides and THE VERMONT MEDICAL MONTHLY will gladly lend its columns to such discussion.

We are pleased to notice that Dr. J. M. French associated with Dr. M. W. Sanborn has undertaken the publication of a journal the first number of which has just reached us. The publication will be known as The New England Alkaloidist. Its editors state as their purpose "to build active principle therapeutics from the foundation," giving especial attention to four points: "(1) The underlying principles of alkaloidal medication; (2) the therapeutics of the alkaloids and other active principles; (3) the alkaloidal methods of treating disease; (4) the clinical applications of the foregoing." We wish the new journal and its editors all success.

NEWS AND PERSONAL ITEMS.

We desire to make this column of personal interest to all. Physicians are requested to send news items.

VERMONT.

Dr. C. F. Gale has bought the practice of Dr. A. J. Valleau of Wolcott, and located in that town.

Dr. L. H. Gillette of Wilmington has disposed of his practice to Dr. L. F. Dunn, formerly of Warren. Dr. Gillette has now located in Springfield.

The hospital at St. Albans has received about $1,000 to be used in repairs, this sum being obtained from a bazaar conducted by the Woman's Hospital Association.

Dr. E. F. Murray, of the University of Vermont College of Medicine, class of '91, and until recently in practice at Worcester, Mass., has opened an office in Burlington.

At the meeting of the American Academy of Medicine held in Chicago Nov. 7 and 8, Dr. D. C. Hawley of Burlington was elected president of the association for the ensuing year.

A large number of the surgeons of the Rutland railroad attended the meeting of the New York and New England Association of Rail-

way Surgeons at New York on Nov. 16 and 17.

Dr. W. H. Mitchell, of the 1905 class of the University of Vermont College of Medicine, has received an appointment as house officer in the Fordham hospital, New York City.

Dr. C. J. Russell, who for several years practiced medicine at Hinesburg, and later took up the practice of law, has been appointed clerk of the Chittenden county court, and began his duties in that office Dec. 1.

A committee has been appointed by Mayor Burke of Burlington to investigate the available sources of gravity water supply for the city and look over other good methods of securing good drinking water. Dr. J. M. Clarke is chairman of the committee.

The annual meeting of the State Board of Health was held in Burlington Dec. 7. The officers were re-elected as last year: Dr. Caverly, president; Dr. Stiles, treasurer; and Dr. Holton, secretary. The staff of the State Laboratory of Hygiene will remain unchanged.

A class of nine nurses was graduated from the Fanny Allen Hospital training school at Burlington this last month. An addition has been made to the hospital building for the benefit of the nurses' school and next year there will be accommodations for at least 25 students.

Dr. Charles H. Barbour of North Clarendon died at his home in that town Nov. 21. He was 56 years of age, a graduate of the University of Vermont College of Medicine in the class of 1874, and practiced in Burlington for a time. A widow and two children survive him.

The Brightlook hospital at St. Johnsbury, which recently received a gift of $5,000 on condition that $10,000 more be raised within a definite time has been offered another gift of $5,000 on condition that a total sum of $20,000 be raised before Jan. 1, 1907. A canvass has been made and subscriptions amounting to $13,750 have already been secured.

The year's work of the Mary Fletcher Hospital at Burlington closed Dec. 1, when the annual conference and dinner of the trustees and staff was held, followed by the annual meeting of the trustees. Dr. B. J. Andrews was re-elected superintendent, with the following attending staff: Surgeons, Drs. J. B. Wheeler, D. C. Hawley, H. C. Tinkham and S. E. Maynard; physicians, Drs. P. E. McSweeney, H. R. Watkins, W. A. Lyman and C. A. Pease; ophthalmologist, Dr. M. C. Twitchell; pathologist, Dr. B. H. Stone.

MAINE.

Secretary William J. Maybury of the state board of registration in medicine, announces seventeen successful candidates out of the nineteen who took the recent state examination.

A branch of the American National Red Cross Society has been organized in Portland, and at the first meeting the names of over a hundred persons in the state were presented for membership. Several prominent physicians are interested in the work.

Cases of smallpox occurring in the neighborhood of Fredericton Junction recently, have moved the state board of health to take action looking toward the prevention of the introduction of the disease from New Brunswick, whence it is believed the present cases have come. A provisional inspection service has been established at Vanceboro with Dr. M. L. Young in charge.

The death of Dr. Augustus Choate Hamlin occurred at his home at Bangor Nov. 19. Dr. Hamlin was one of the best known men in the state and widely known as an author and artist. He was born in Columbia, Me., in 1829, graduated from Bowdoin college in 1851 and from Harvard Medical School in 1855. During the civil war he served as surgeon and medical inspector, attaining the rank of lieutenant-colonel. After the close of the war he practiced medicine in Bangor. In 1878 he was made chevalier of the Order of St. Anne by the Emperor of Russia. Dr. Hamlin was twice mayor of Bangor, and was at one time department commander of the Grand Army in Maine. He was the author of a

book on Andersonville prison and of numerous other works.

MASSACHUSETTS.

The marriage of Dr. Peer Prescott Johnson of Beverly to Miss Elizabeth Gould Torrey, daughter of Dr. and Mrs. S. W. Torrey, will occur Jan. 8.

Dr. B. L. Arms of the class of '05 of the University of Vermont College of Medicine has received an appointment as assistant in the pathological department of the Boston City Hospital.

Dr. A. V. Mills, University of Vermont College of Medicine, class of '04, has been appointed assistant physician at the Channing Sanatarium, Brookline, succeeding Dr. W. W. Ferrin who is now located at Haverhill.

Dr. Daniel T. Plummer, a prominent citizen of Newbury, Mass., died Dec. 13, aged 87 years. He was graduated at Dartmouth in the class of 1840 and two years later from Harvard Medical School. He practiced in Newburyport and in the west, and retired in 1860.

The centennial meeting of the Essex South District Medical Society was held Nov. 21. Dr. C. H. Bangs of Lynn presided. The Massachusetts Medical Society was the subject of Dr. Arthur T. Cabot of Boston, and Dr. Frank Holyoke and Dr. John Holyoke Nichols each spoke of their great grandfather, Dr. E. A. Holyoke, first president of the society. The society's history was given by Dr. Samuel William Torrey, Dr. Isaac Francis Galloupe, Edward L. Pierson and Percy C. Proctor. Dr. Galloupe told of his recollections of the first uses of ether as an anesthetic. The women physicians were represented by Mrs. D. Allen Ruppel. Dr. C. M. Cobb spoke on "Our Library and Its Rare Books," and George Francis Dow of Salem on the "Essex Institute and Its Relation to the Medical Society." The society was organized on Nov. 4, 1805, as a branch of the Massachusetts Medical Society.

GENERAL.

A directory of the medical profession of the United States and Canada is being prepared by the American Medical Association and it is the desire of the compilers to make it complete in every respect. Physicians who have not filled out the blanks furnished for the purpose should correspond immediately with the general secretary of the association, Dr. George H. Simmons of Chicago.

The Alkaloidal Clinic, which through the efforts of its editors, Drs. W. C. Abbott and W. F. Waugh has become widely known as a practical and up-to-date medical journal, will with the January issue, change its name to The American Journal of Clinical Medicine. The staff has been increased by the addition of Dr. William J. Robinson of New York and Dr. Emory Lanphear of St. Louis, and we bespeak for the rejuvenated journal continued and increasing success along the line of its own particular endeavor and in the broader fields of general medical journalism.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

CLINICAL EXPERIENCE WITH HEART STIMULANTS.

SATTERTHWAITE (*Am. Medicine, Nov. 18*) discusses the action of certain drugs in heart disease. (1) Adrenalin he considers the most powerful heart stimulant we have. He uses it in the form of a powdered gland, giving 2½ grains at a dose. As a rule a single dose will relieve palpitation or precordial pain. Its action is temporary unless there is a continuous dosage. (2) Nitro-glycerine he gives in threatened heart failure. Its effects are evanescent. In arteriosclerosis it should not be given in doses sufficient to produce throbbing. (3) Amyl-nitrate he uses internally in ¼ grain doses in combination with menthol (1-60 grain) oleoresin of capsicum 1-100 grain) and caster oil (10 drops. (4) Erythrol tetranitrate is used with success in arteriosclerosis. Its effects are more lasting than those of nitro-glycerine. Half a grain in a half glass of water not only relieves dyspnea and palpitation in these cases, but maintains its effect for several hours. (5) Chloral hydrate is valuable for relieving the high tension in arteriosclerosis. (6) Iodin he considers indispensable in arteriosclerosis, gout, syphilis and old age. The dosage commencing with ½ grain in the form of tablets with nuclein and peptonoids, may be gradually increased until 2 grains are taken. (7) Arsenic is reliable in the heart disease of old people where heart failure is not threatened, in dosage from 1-200 to 1-100 grain. It relieves dyspnea, palpitation and edema, to some extent and regulates the pulse. In larger doses it is a depressant. (8) Strychnia is a valuable heart stimulant, success with which depends upon not in-

creasing the dose beyond 1-60 grain. In larger doses it is liable to produce nervousness and insomnia. (9) Cactus is a good heart regulator, strengthening the organs to some extent and quieting irregularity. It has no culminative effect and does not disturb the stomach and can be used in 1 minim doses for a long period. (10) Strophanthus is useful in heart failure to prolong the action of the nitrites. It modifies the pulse within an hour and in four or five hours it produces its full physiological effect. Its dosage is 1-200 to 1-100 grain. (11) Apocynum cannabinum in moderate doses contracts the heart and increases arterial tension. (12) Digitalis acts best when the vessels are flaccid. A previously rapid pulse should be made less frequent, steadier and firmer. It should form no part of the regular treatment in acute valvular disease, in fatty heart, fatty degeneration or in advanced arteriosclerosis.

TYPHOID FEVER.

SIMONDS (*British Med. Journal, Nov. 18*) maintains that we have in the polyuria which often occurs in the course of typhoid fever a valuable aid to prognosis. If toward the beginning of the fourth week the patient's urine increases to 60, 80 or even 100 ounces daily the prognosis is extremely favorable, even though the case is one of great severity in which no general improvement can be seen. Conversely if this polyuria does not appear, even though other symptoms are apparently ameliorated, he considers the prognosis bad.

BILLINGS (*N. Y. and Phil. Med. Journal*) discusses the method of collecing data relative to typhoid fever in New York, and details the investigations regarding the source of several small epidemics. He concludes that the majority of cases of typhoid fever in New York city are due to infected water.

WOOD ALCOHOL AMBLYOPIA.

ALFRED T. HAWES (*Boston Sur. and Med. Journal*) reports a case of wood alcohol poisoning resulting from inhalation of fumes. The patient was using wood alcohol in removing old paint from furniture in a small room with closed windows. He commenced to feel symptoms the first day, but continued at work during this day and the next. The symptoms were headache, nausea, faintness and smarting of the eyes. These symptoms grew worse until the patient was in a semi-conscious condition with a temperature of 100, pulse 108, and respiration 20. The acute symptoms gradually disappeared, the temperature becoming normal on the fifth day. The vision became steadily worse, resulting in complete blindness.

ALKALINE TREATMENT OF DIABETIC COMA.

SEARS (*Boston Med. and Surg. Journal, Nov. 30*) reports a case of diabetic coma which recovered under the following treatment: The patient, a boy of 13, was brought into the hospital in February in a semi-comatose condition. Immediately after his entrance he was given stimulants and eight ounces of sterile salt solution containing bicarbonate of soda almost to saturation was injected under the skin of each breast. Bicarbonate was introduced into the rectum, but was not retained. A solution of the same drug in proportion of a heaping teaspoonful to a tumbler of water was given by mouth to the limit of his capacity. He took large quantities in this way. His stupor rapidly decreased, but he remained drowsy for several days. In the following May when last seen he was in a fair condition.

SURGERY.

LAPAROTOMY TECHNIQUE.

HAMMOND (*Boston Med. and Surg. Journal, Nov. 16*) details his technique in a hundred laparotomies, in which drainage was only used twice. Thirty-six of these one hundred were cases of localized pus. He always attempts to bring the pus cavity out through the incision, but in the many cases where this is impossible the pus is evacuated and the pus bearing area rendered thoroughly aseptic by washing and rewashing with distilled water at 110 degrees, then applying a solution of bichloride of mercury over the entire pus plane by means of a gauze sponge and long dressing forceps. No irritant solutions are ever employed in the general abdominal cavity. Closing of the abdominal cavity is complete in all cases except where an accidental puncture of some hollow viscus has permitted the escape of gas and possibly infected bacteria, or where there has been a wound to the liver, spleen or pancreas or in those cases where there is a partially necroctic tissue that cannot be removed from an abscess site. In all other cases he thinks drainage worse than useless, lessening the power of resistance, prolonging shock and encouraging excessive adhesion formation.

ANTHRAX.

J. D. JONES (*Med. Record, Nov. 18*) reports a case of anthrax infection. The patient, a farmer, gave a history of skinning the carcass of a cow which had died, undoubtedly of anthrax, on his farm a week previous to the first noticeable symptom. He first observed a little swelling without any pimple or redness of the skin on the palmar surface of his forearm. The swelling increased before he consulted a physician. At this time, on the third day, the arm was badly swollen and blisters were forming. The arm became greatly swollen and covered with large bullæ below the elbow. Between the elbow and shoulder there was much edema. The constitutional symptoms commenced to appear about the third day and grew gradually worse until the fifth day, when he died. These symptoms consisted of a moderate rise of temperature during the first three days, followed by sub-normal temperature, a slightly increased pulse rate and rapid respiration with great weakness. Delirium was present only a short time before death.

NON-GONORRHEAL URETHRITIS.

SPOONER (*Med. Record, Nov. 14*) concludes, in a discussion of non-gonorrheal urethritis, that the presence of pyogenic bacteria other than the gonococcus is not sufficient to cause urethritis until the vitality of the epithelium is lowered. This effect may be produced by internal irritants due to toxic conditions of the blood or urine or by external irritants, such as the passage of sounds. The course and complications of the non-gonorrheal urethritis may resemble closely the specific. If due to pyogenics, the treatment should be identical to that of gonorrhoea.

SCOPOLAMINE ANESTHESIA.

A. C. WOOD (*Am. Medicine, Nov. 11*) discusses scopolamine as a surgical anesthetic, giving his experience in 15 cases. To induce full anesthesia in the average healthy adult, he recommends 1-100 grain scopolamine hydromid and 1-6 grain of mor-

phine to be given hypodermically two or two and a half hours before operation, and a second similar dcse an hour later. If the anesthesia is not sufficiently complete one-half hour before the operation a third dose may be given. This may be the same as the two previous doses or may consist of either drug alone or of scopolamine in conjunction with apomorphine, according to the special indications present. The dose should be considerably reduced in children, feeble patients and in advanced age. If it fails to produce complete anesthesia, ether or chloroform inhalation may be added with especially satisfactory results. Its advantages are that the patient avoids the anxiety often felt before taking ether and the nausea, vomiting and depression following its administration. It is contra-indicated in acute infection of the pharynx, larynx, in operations involving the mouth or air passages, in edema of the lungs and in operations where capillary hemorrhages may be troublesome.

M. G. Bardet (*Bulletin Géneral de Thérapeutique*) calls attention to the toxic effects of scopolamine which he has seen follow its use in one-half milligram doses. He thinks the dose to begin with should not exceed one or two tenths of a milligram.

Landan (*Deutsche Medizinische Wochenschrift*) reports 13 cases of death following scopolamine-morphine injections. He considers the ordinary dosage as employed by surgeons especially dangerous in hepatic operations or in cases where digestion is disordered, since the alkaloid destroying function of the liver is reduced by disease.

Sharp (*N. Y. and Phil. Med. Journal, Nov. 25*) gives the advantages of scopolamine as an anesthetic in connection with chloroform as follows: (1) The harmlessness of scopolamine, as while the pulse is accelerated, the quality remains good and strong; (2) the absence of the stage of excitement; (3) the small amount of chloroform used; (4) the natural sleep after the operation, extending over the period of the most severe post-operative pains; (5) the absence of nausea and other ill-effects which usually follow the use of chloroform alone; (6) the deep, full and regular respiration; (7) the ability of the patient to take water or even food shortly after awakening without nausea or vomiting.

Mary Keyth Isham (*N. Y. and Phil. Med. Journal, Nov. 25*) gives her conclusions on the use of scopolamine from her experience in 34 cases. The standard dose was .01 gr. of scopolamine hydrobromide and 1-6 gr. of morphine in 1 c. c. of distilled water. One, two or three injections were given, according to the nature of the operation and the reaction of the patient. One injection two hours before the operation gave the best results. In no case was the anesthetic property of the injections sufficient to produce a relaxed anesthesia without chloroform. The following advantages the author thinks are gained by the use of this drug, as a preliminary measure in chloroform anesthesia lessening the amount of chloroform abolition; suppression of the stage of excitement preceding muscular relaxation; long duration of sleep after the operation; no increase in the amount of saliva; lessening of nausea and vomiting. Its disadvantages are its variability of action in different patients; the vasodilatation and consequent tendency toward hemorrhage; the inconvenience of giving the injection so long before the operation; the interference in some cases with sterilization, and the readiness with which the crystals decompose.

BOOK REVIEWS.

Lectures on Auto-Intoxication in Disease or Self-Poisoning of the Individual.—By Ch. Bouchard, Professor of Pathology and Therapeutics; Member of the Academy of Medicine, and Physician to the Hospitals, Paris. Translated, with a Preface and New Chapters added by Thomas Oliver, M. A., M. D., F. R. C. P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, New-Castle-Upon-Tyne; formerly Examiner in Medicine, Royal College of Physicians, London. Second revised edition. Philadelphia. F. A. Davis Company, publishers, 1906.

Professor Oliver in translating Bouchard's work on Auto-Intoxication in Disease has brought the subject of auto-toxis up to date by additions of his own. He has however, maintained Bouchard's lectures intact, making his own revision in the form of additions to the original text. In an appendix written entirely by Oliver the subject of the natural defences of the organism against disease is considered. The discussion includes a resume of our knowledge of phagocytosis, the function of the secretion of the ductless glands. The book is a valuable addition to literature upon this extremely important subject and with the additions by Professor Oliver is strictly up-to-date.

Chemical and Microscopical Diagnosis.—By Francis Carter Wood, M. D. Published by D. Appleton & Co., New York and London.

In this volume Wood has presented the laboratory method of diagnosis with the interpretation of the results of such examination in an admirable way. The co-relation of chemical and microscopical results with the facts obtained by physical diagnosis is well shown and the student saved from getting the erroneous idea that one of these methods may be used to the neglect of the other. At the end of the discussion of each of the various secretions and excretions certain well defined disease pictures are given showing the relation of the facts obtained by the examinations to the diagnosis of these diseases. The price of the book is $5.00 in cloth.

The Physician's Visiting List for 1906, published by Messrs. P. Blakiston's Son & Co., Philadelphia.

A new edition of this well know List reminds us that a New Year is nearly here. The List is too well known to need much description. The publishers have succeeded admirably in making it a compact, convenient and comprehensive record book. It is bound in flexible leather and the price remains the same, $1.00, $1.25, $2.00 and $2.25 for twenty-five, fifty, seventy-five and one hundred patient lists respectively.

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SOCIETY MATTERS.

MINUTES OF THE 92nd ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY

Held in Burlington, October 12 and 13, 1905.

(*Continued.*)

REPORT OF THE COMMITTEE ON LEGISLATION.

E. R. Campbell made a short verbal report from the Committee on Legislation, as follows:

I haven't heard anything from Dr. Darling. The secretary's report stated what was done last fall at the Legislature. I am willing to answer any questions that I am able to, but I haven't given this matter much thought. I wish to introduce a resolution regarding Senator Proctor's gift. I think we should make due acknowledgment of it, and I am sure this resolution will be carried through by you all.

RESOLUTION.

WHEREAS, The Honorable Redfield Proctor, the senior senator from Vermont, has recently presented to the people of this State a munificent gift of $150,000 for the establishment of a sanitarium for incipient tuberculosis, a part to be used to erect and equip such an institution, the remainder to be held as an endowment fund, the interest only to be applied to its support;

Resolved, By the Vermont State Medical Society, That our thanks, both as physicians and citizens, are due to the Honorable Redfield Proctor for having thus placed Vermont in the front rank of States now striving both by modern treatment and educational influence, to stamp out the "great white plague";

Resolved, That he be requested to allow his name to be connected with the sanatorium as well as to bear the name of the State as suggested in his recently published letter;

Resolved, That a copy of these resolutions be forwarded to the Honorable Redfield Proctor by the secretary of the society.

Dr. P. E. McSweeney:—We all know that there is no other disease that carries off as many of our people as this "great white plague" which has just been spoken of. We also know that the treatment which is given in a sanitorium perhaps does more toward eradicating the disease than any other treatment which is now known, and I am heartily in accord with the remarks which Dr. Campbell has just made.

Dr. Lyman Allen:—If I understand it correctly, these resolutions should go to the House of Delegates and after the House has passed upon them, they may be brought before the general house. I think it should be referred to the House of Delegates.

Dr. McSweeney:—Then we will refer this to the House of Delegates and have it called up later before the general house.

REPORT OF THE COMMITTEE ON NECROLOGY.

As Drs. Eddy and Scofield are absent, the report of the committee seems to fall upon me. Within the year ending Oct. 1st, 1905, death has taken from our numbers nine members. The names of the deceased members are:

Dr. W. R. Hutchinson of Enosburgh Falls, whose obituary will be presented by Dr. W. H. Giddings.

Dr. W. D. Huntington of Rochester, a sketch of whose life will be written by Dr. J. N. Jenne.

Dr. William N. Platt of Shoreham. Dr. Howard of that town will present his obituary.

Dr. E. P. Fairman of Hardwick, whose obituary has been written by Dr. S. E. Darling of Hardwick.

Dr. E. B. Mack of Woodstock. Dr. F. T. Kidder of the same town gives an obituary of his life.

Dr. C. C. Rublee of Morrisville, and Dr. G. L. Bates writes his obituary.

The obituary of Dr. O. E. Carter of Danville is written by Dr. D. L. Brown of that town.

A sketch of the life of Dr. W. M. Stearns will be presented by Dr. O. J. Gilchrist of Rutland.

An obituary of Dr. H. C. Powers of Ripton, who died a short time since, will be presented at the next meeting.

All of which I expect will be read and presented to the secretary of this Society for publication. All of which is most respectfully submitted.—C. W. Howard.

REPORTS OF DELEGATES.

The report of F. T. Kidder as delegate to the Connecticut Medical Society was read by the secretary and accepted.

George H. Gorham gave a report as delegate to the White River Medical Society.

The report of Dr. M. Burbank and O. C. Baker as delegates to the Dartmouth Medical College was read by the secretary.

Delegate to Connecticut.

Gentlemen:—As one of your delegates, I attended the meeting of the Connecticut Medical Society held in Hartford, Conn., in May. The meeting was very well attended by the doctors of the state and the papers, of which there were many, were extremely interesting and instructive. The social part of the program was all that could be desired and I was treated with the greatest cordiality and kindness. The profession in Hartford are particularly fortunate in having a club house, which was given them by one of their number, in which they hold their meetings, and which serves all the purposes for which a club room would be used.—F. Thomas Kidder.

(*To be Continued.*)

CHITTENDEN COUNTY OFFICERS.

The annual meeting of the Burlington and Chittenden County Clinical Society was held Nov. 29. The annual address was given by the president, Dr. B. H. Stone, who took for his subject, "Preventive Medicine." The following officers for the ensuing year were then elected: President, Dr. B. H. Stone; vice-president, Dr. Lyman Allen; secretary-treasurer, Dr. C. H. Beecher; executive committee, Drs. C. K. Johnson, F. J. Arnold, and J. M. Wheeler. Drs. H. C. Tinkham, W. G. Church, J. H. Dodds and J. N. Jenne were elected delegates to the State Society for two years. Refreshments were served.

WHITE RIVER ASSOCIATION.

The regular meeting of the White River Medical Association was held at White River Junction, Nov. 28, with a paper by Dr. E. A. Barrows on "Infantile Paralysis." This was followed by a general discus-Paralysis." This was followed by a general discussion on contract service, opened by the president, Dr. C. B. Doane, followed by Drs. F. Fletcher, E. J. Fish, L. A. Smith, F. Von Tobel, M. Smail, M. P. Stanley, E. A. Barrows, J. Vallee and others.

WINOOSKI MEDICAL ASSOCIATION.

The Winooski Medical Association met at the office of Dr. A. S. C. Hill, Dec. 4, the meeting being devoted to discussion of matters pertaining to the general welfare of the village.

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THERAPEUTIC NOTES.

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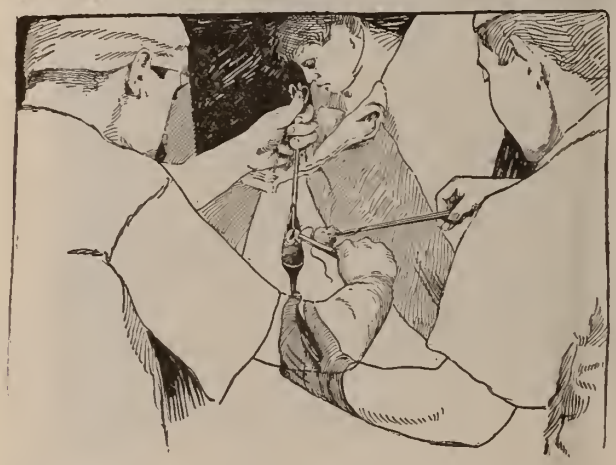

Fig. 91.—Disposition of surgeon, assistant and anesthetist in trachelorrhaphy. The operator has taken the volsellum in his left hand while introducing the stitches. Assistant's right hand manipulating sponge; his left hand is here shown through the operator's arm to indicate method of holding posterior vaginal retractor (spade).

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1905

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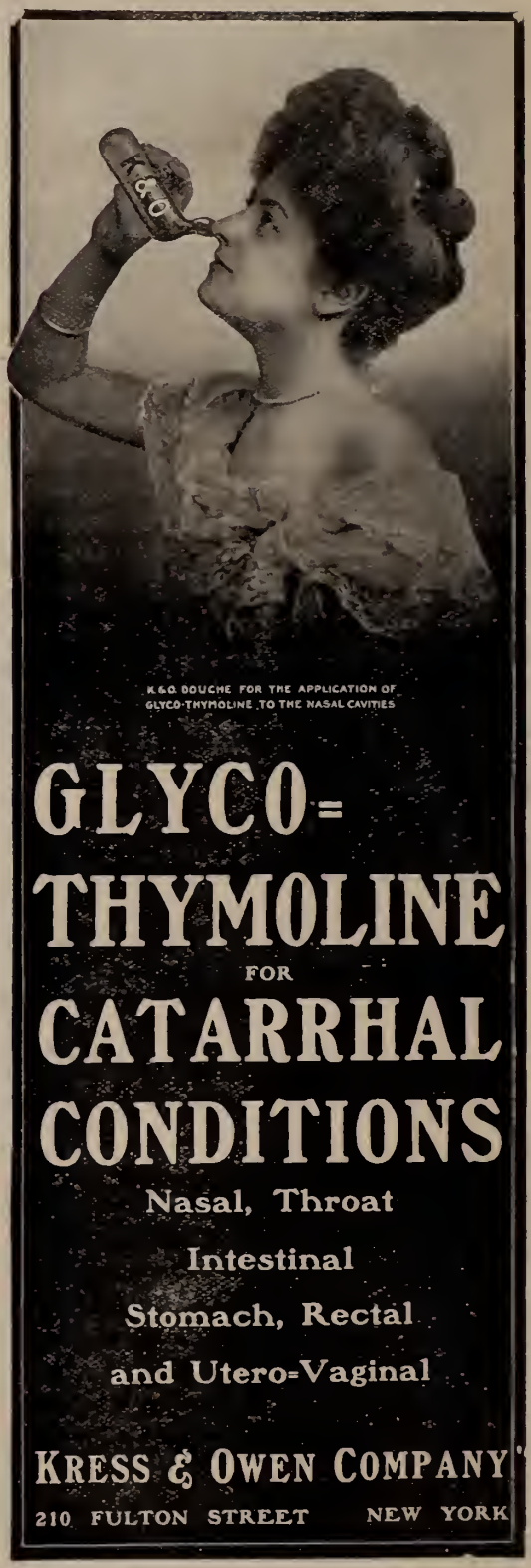

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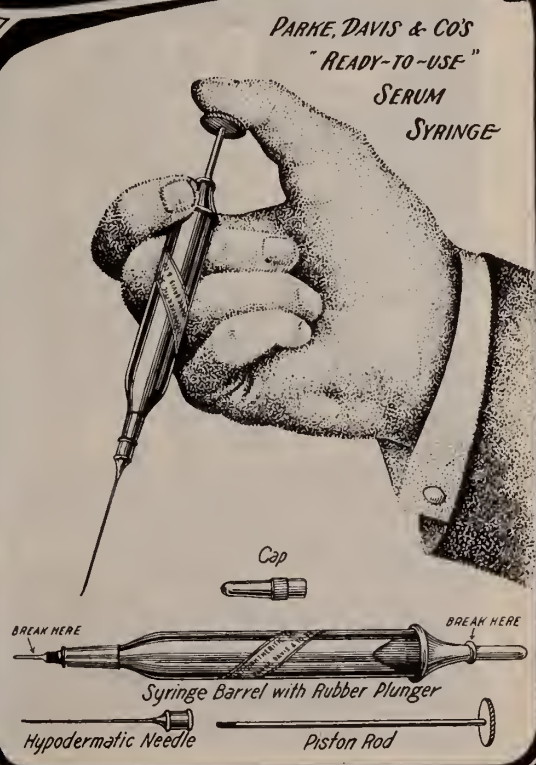

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NOTICE.—CAUTION.

THE success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these imitations, finds that no two of them are identical, and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnia in solution, and in the medicinal effects.

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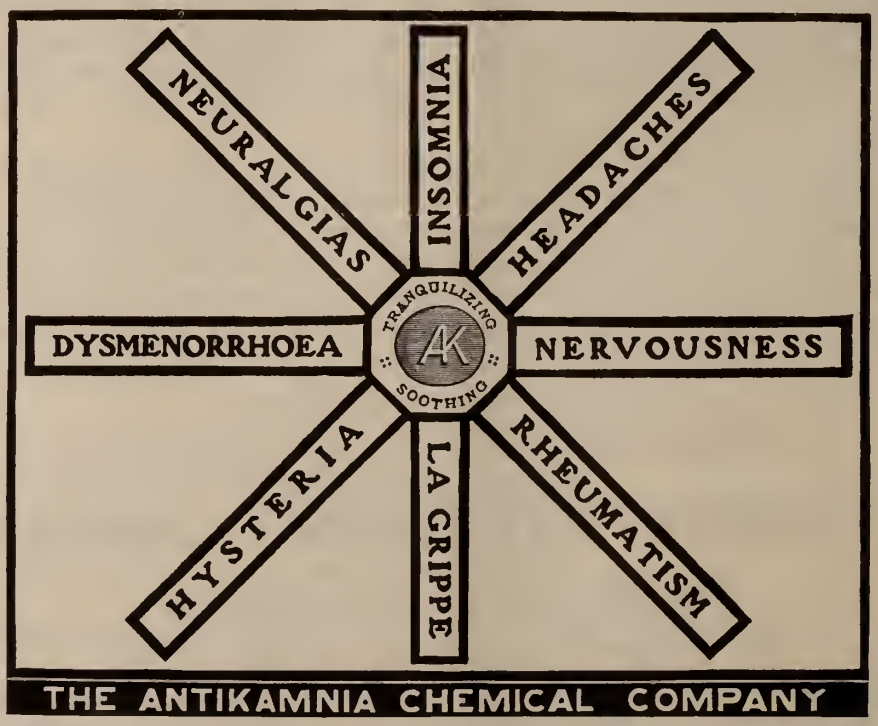

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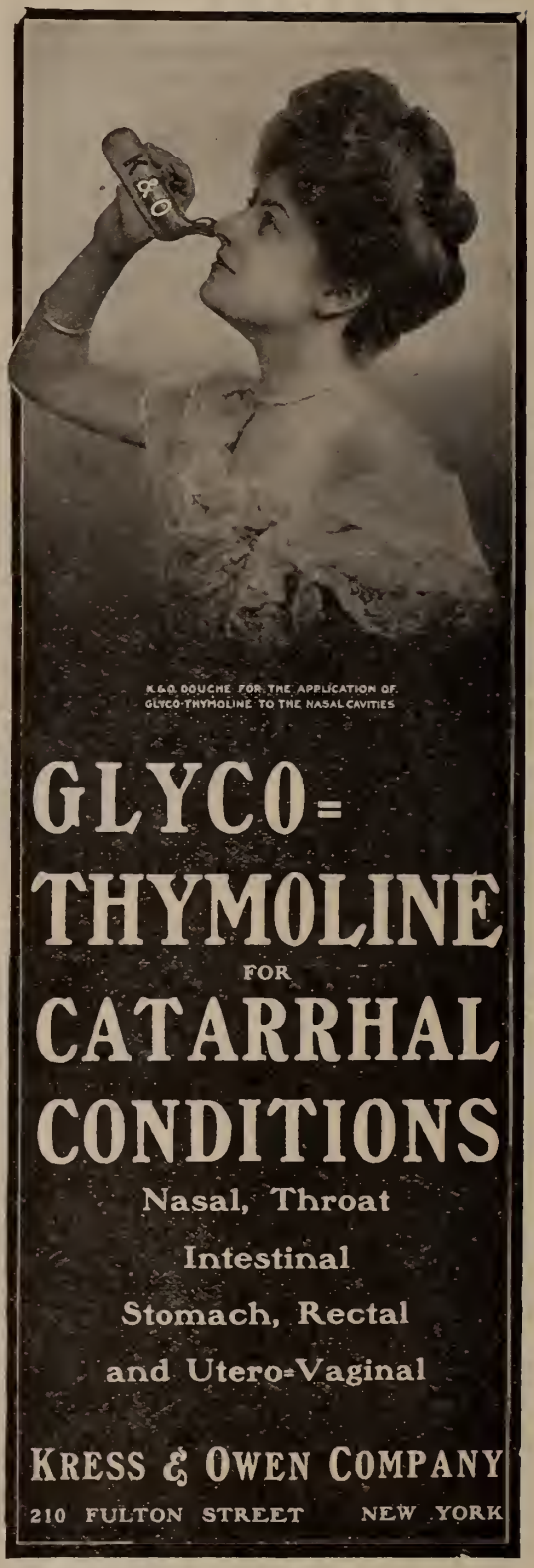

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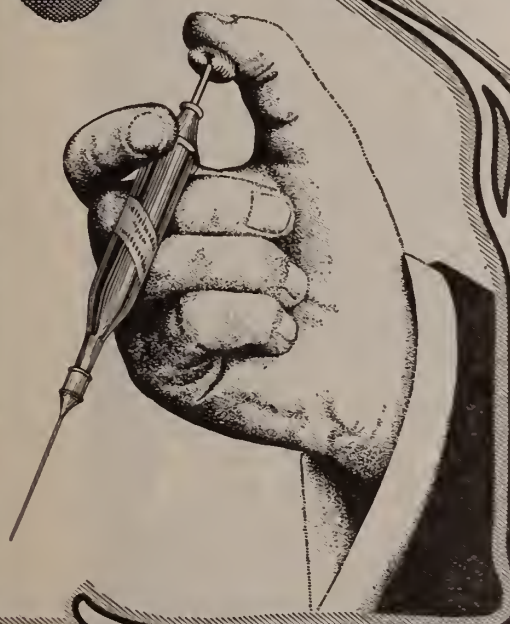

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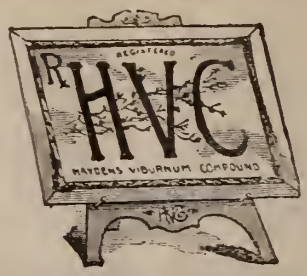

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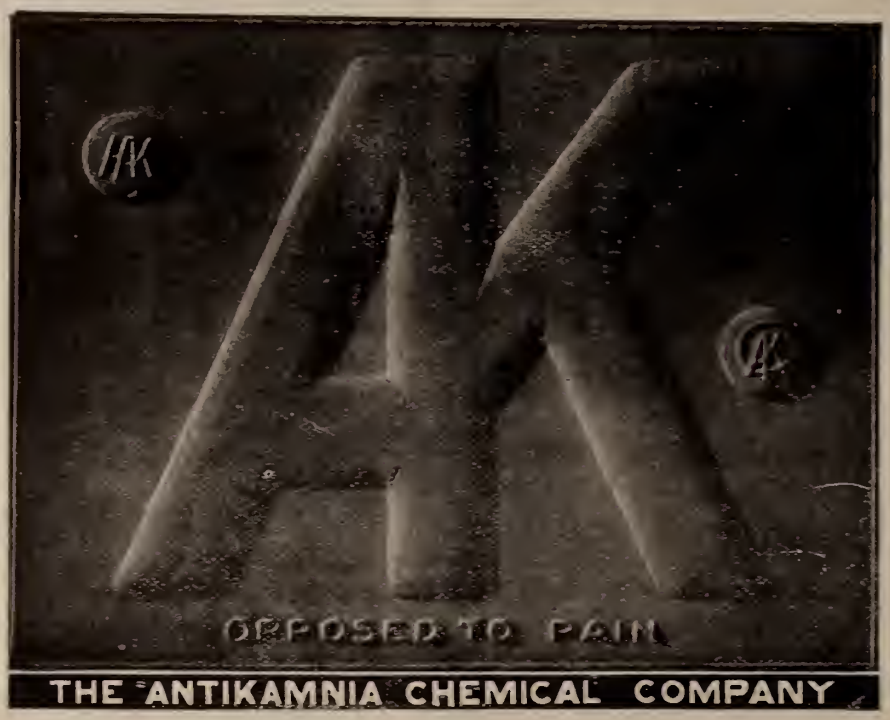

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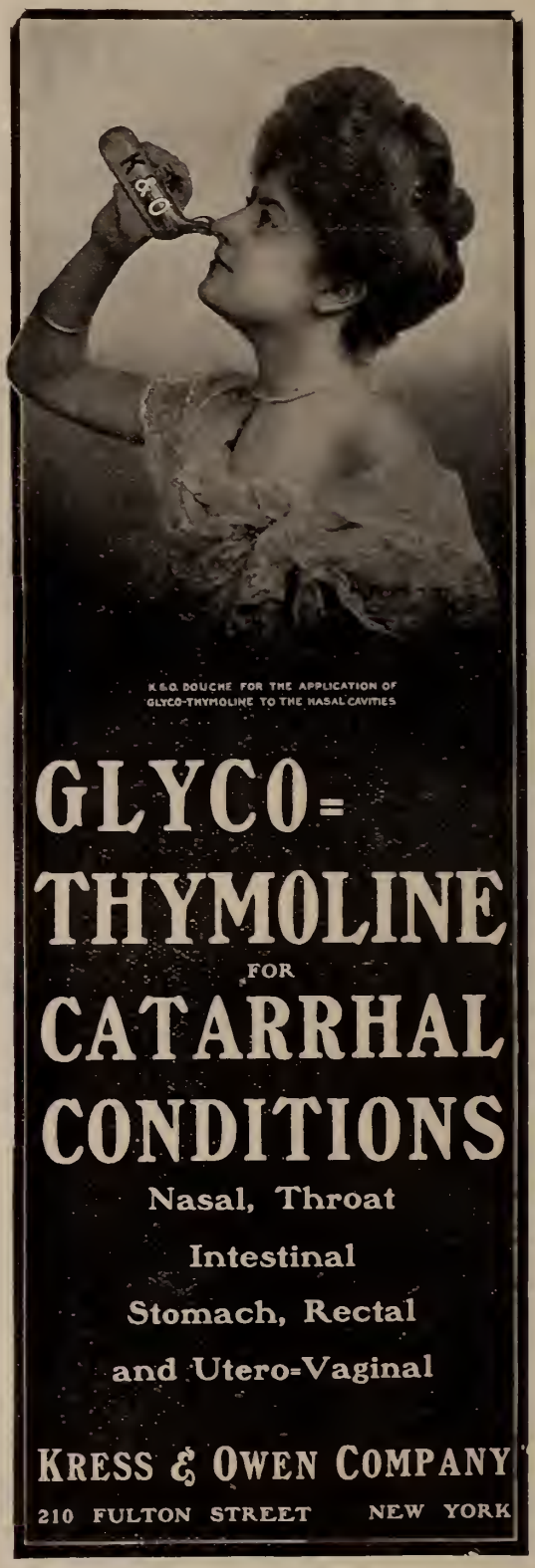

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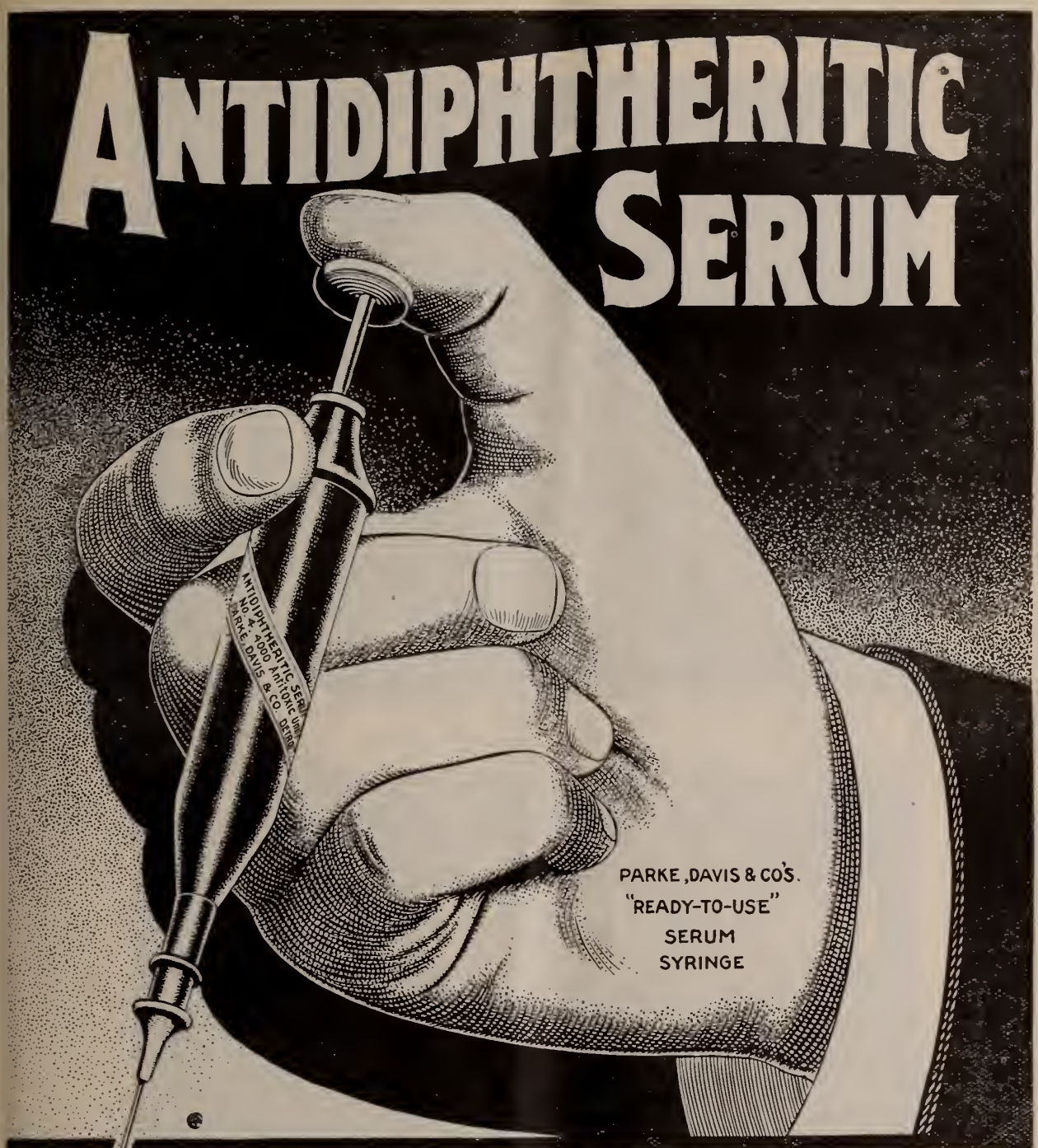

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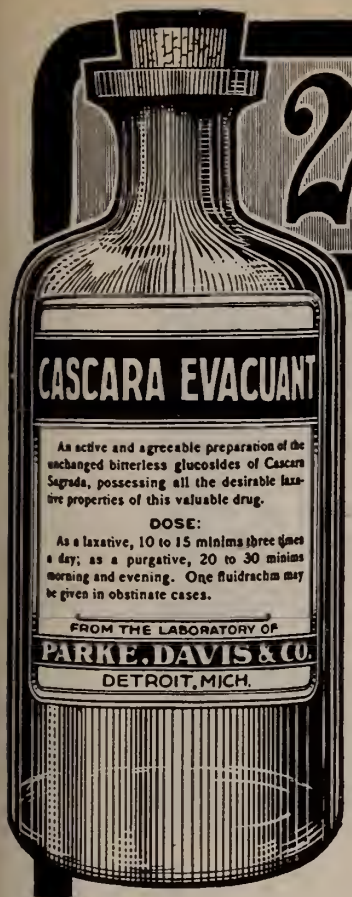

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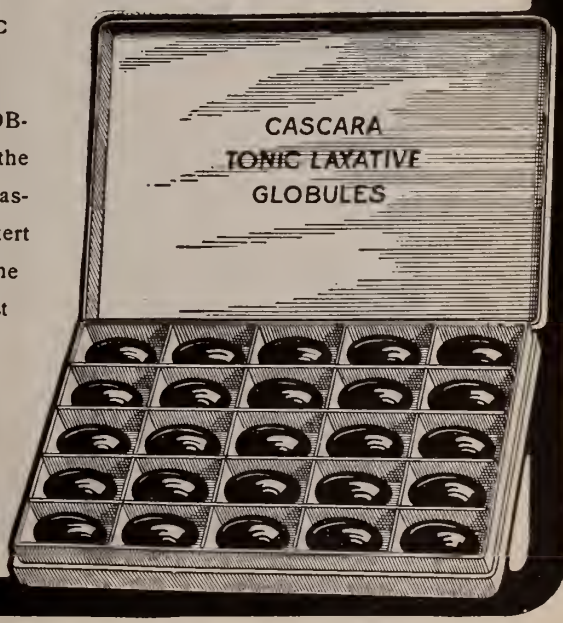

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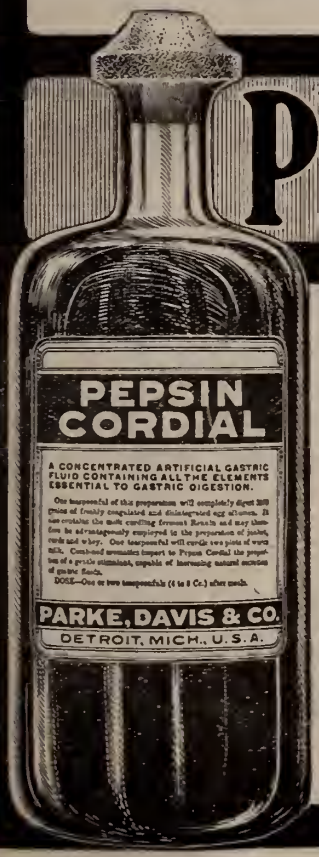

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the cleaning of the streets, including the disposal of garbage and night soil. Fourth, general sanitation of houses, including their cleaning and fumigation and the drainage of neighboring pools, the abolition of water barrels and cisterns, and other places for the propagation of the yellow fever mosquito. Fifth, the prompt isolation of all cases of yellow fever. It was not until after four or five months had elapsed, however, and only after progressive development of yellow fever that Colonel Gorgas was permitted by the Commission to assume the sanitary control of the two cities, one of which, Panama, having by this time become very generally infected. Contrast this with the brilliant results achieved by Colonel Gorgas in Havana, where he was given not only a free hand, but his own purchasing and distributing agents. The report states that the responsibility for the present existence of yellow fever on the Isthmus can be placed nowhere else than on the canal commission, more especially on Mr. Grunsky. It is also stated that the campaign against malaria has been thwarted by the Commission, that many employes are sick with malaria, and that both nurses and attendants are frequently victims of the disease. An effort has also been made by the Commission under the subterfuge of establishing a training school at Ancon, to get undergraduate nurses to go to the canal zone at about the same rate that is paid pupil nurses in the training schools of the United States. Dr. Reed says that the Isthmus is not a place to take untrained nurses on any pretext, for nothing but fully developed talent in the various departments of activity should be sent to the canal zone. Dr. Reed concludes his report as follows: "I have the honor not only to submit the suggestion, but really to urge, that the time has arrived when the President ought to redeem his word and ask for the resignation of the Commission."

Obstetrics, by J. Harold Lail, M. D., Ingalls, Ind.—The most important cases that I find necessary for the use of Glyco-Thymoline in are confinement cases where is a tendency to septicemia, using well diluted with the ordinary fountain syringe. I generally direct the nurse to use one ounce of Glyco-Thymoline in one quart of water, injected well up to uterus each night and morning and I am always gratified to see inflammatory conditions pass away. In case there is any foreign substance left in the uterus I always inject the agent direct into uterus with uterine douche.

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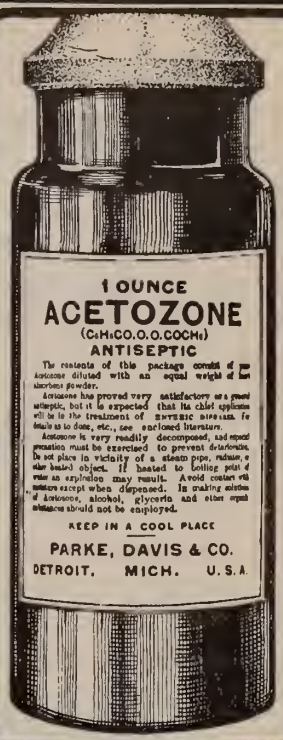

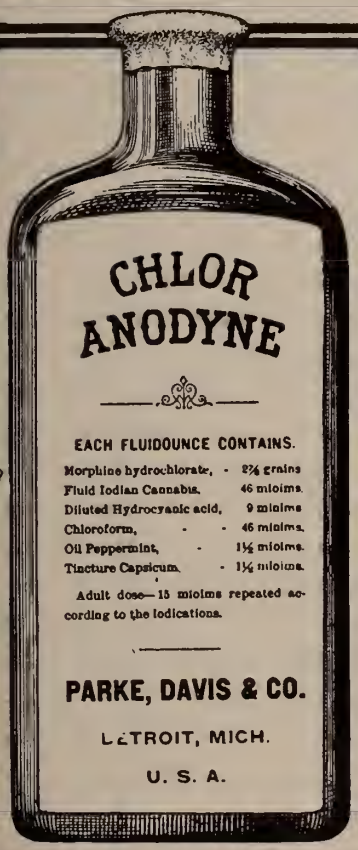

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As these cheap and inefficient substitutes are frequently dispensed instead of the original, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. FELLOWS."

SPECIAL NOTE.—Fellows' Syrup is never sold in bulk, but is dispensed in bottles containing 15 oz.

MEDICAL LETTERS MAY BE ADDRESSED TO

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ALKALOMETRY

(*ALKALOIDAL MEDICATION*)

NO MONOPOLY!

BUT—DON'T LET OUR IMITATORS DECEIVE YOU!!!

THE SOLUTION OF THE PROPRIETARY QUESTION IS THE USE OF THE ALKALOIDS—ACTIVE-PRINCIPLE THERAPY

There is no monopoly upon the active principles. Everything is, technically, wide open.

Every druggist in the United States may, if he can, make and supply them without paying any one for the privilege.

In fact, every large manufacturer of pills and tablets in the world now carries many or a few of these agents upon his list.

Nevertheless, physicians should not fall into the error of supposing that even these agents from different houses are invariably alike because their mere names are identical.

On the contrary, there is an enormous and dangerous variability in many of these preparations as presented, by different manufacturers for the use of the physician.

In the W-A Text-Book of Alkaloidal Therapeutics, page 2, are mentioned five aconitines, whose total daily doses vary from gr. 1-20 to 15 grains, while aconitine, A. A. Co. (standard) is usually (and always safely and efficiently) given in doses of gr. 1-134 frequently repeated till the desired effect is produced.

The Abbott Alkaloidal Co. makes it its business to secure or make the best preparations which it is possible to obtain, to secure or make these always of exactly the same strength, and to put them up and out in exactly the same way; and that is why "Abbott quality" is not approached by any of our imitators.

For instance: Of many millions of aconitine granules sent out during the past ten years, no two lots have ever been found to differ in strength.

This result is obtained by the care taken to secure the alkaloids in exactly the same form, and from the same manufacturers, and by the continuous employment of specially skilled operatives to prepare them in granules and tablets that are just right.

As an example of the care which is taken to secure quality, we buy especially purified sulphocarbolates for that "Prince of Specialties," the "W-A Intestinal Antiseptic," by the ton, and pay far more than the ordinary market price for commercial goods. That's why our sulphocarbolates are just right.

This is but one instance of many in which the question of cost is not considered, as it never is by us, where quality is in question.

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Not alone on account of originality but true merit

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has stood the test of time.

For over one-quarter of a century this valuable remedy has been successfully prescribed in cases of Dysmenorrhea, Amenorrhea, Menorrhagia, Metrorrhagia, and as a uterine tonic and sedative in those conditions manifested by neural reflexes. It is not a narcotic and contains no chloral nor dangerous habit-forming drugs. Assure results by insisting upon the genuine H. V. C. when prescribing.

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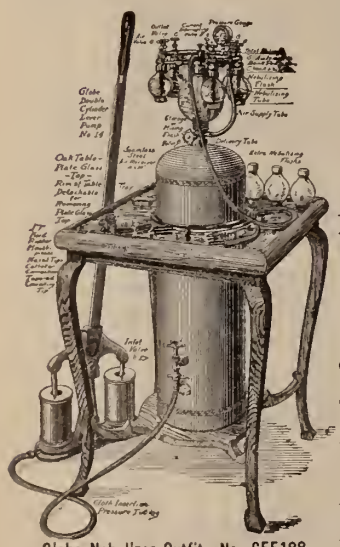

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These goods stand at the head of this line, as thousands of satisfied purchasers testify. They are simple, beautiful, and unequalled for

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When we say they are the very best for successfully treating catarrhal deafness, tinnitus, bronchial difficulties, pulmonary tuberculosis, etc., we are ready to prove it. We can present a dozen common sense reasons that will convince your mind and your pocket.

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TISSUE BUILDING
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BOVININE

is most successful because **BOVININE** supplies absolute and perfect nutrition.

It not only stimulates, but completely feeds the new born blood cells, carrying them to full maturity.

It increases the leucocytes and thereby most powerfully retards pathological processes.

As a food and nutrient it is ideal, requiring little or no digestion, and being at once absorbed and assimilated.

For starving anæmic, bottle-fed babies, its results are immediate and most gratifying, as it is a ready alimentation as soon as ingested, and never causes eructation.

It will be found equally reliable for nursing mothers, affording prompt nourishment and strength to both mother and babe.

In typhoid fever and all wasting diseases it may be administered per rectum, and will sustain the strength and support the heart without need for recourse to alcoholic stimulants.

Records of hundreds of cases sent on request.

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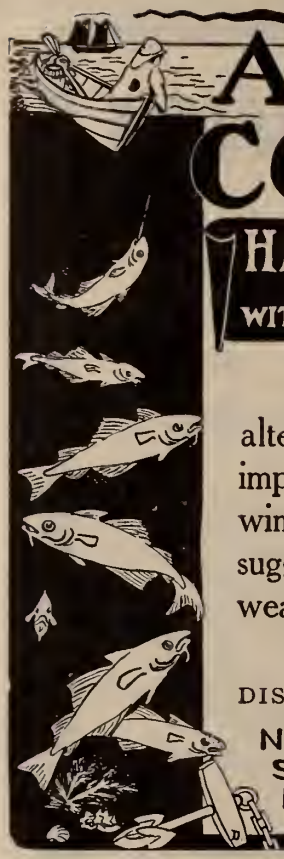

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Is an elegant and effective tonic, nutritive, alterative and reconstructive—which is even more important in the heat of summer than in the cold of winter. It is entirely free from grease, or fishy suggestion, and is perfectly adapted to use in hot weather.

Prescribe CORD. OL. MORRHUAE COMP. (HAGEE)

DISPENSED IN 16-oz. BOTTLES BY ALL DRUGGISTS

NEVER SOLD IN BULK.

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ECTHOL.

FORMULA:—EVERY FLUID DRACHM CONTAINS TWENTY-EIGHT GRAINS ECHINACEA ANGUSTIFOLIA AND THREE GRAINS THUJA OCCIDENTALIS. IT IS ANTI-PURULENT, ANTI-SUPPURATIVE, ANTI-MORBIFIC, AND IS SPECIALLY INDICATED IN BREAKING-DOWN CONDITIONS OF THE FLUIDS, TISSUES, CORPUSCLES, AND DYSCRASIA OF THE SECRETIONS.

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Peptogenic Milk Powder

First: A milk mixture adjusted to the normal percentage composition of mothers' milk.

Second: The submission of this milk-mixture to heat, under which the Peptogenic Powder (its enzyme) converts the caseine into a form remarkably approximating to the soluble, diffusible proteids of human milk.

This milk is then Pasteurised or sterilised—160° F. or boiling---and the enzyme thus instantly destroyed.

In consequence of this proteid conversion, the milk takes on a striking, visible resemblance to human milk; likewise corresponds to it in behavior (with rennet, acid, etc.) and in susceptibility to digestion. The original milk-mixture does not even look like mothers' milk---coagulates with acid just like all percentage modifications. In this we have confirmation of the fact that the "pivotal", radical difference between cows' and human milk lies in the nature of their proteids, not in any quantitative detail, a fact moreover highly significant of the futility of mere percentage modifications.

N. B. The food, by the "Fairchild" method, contains no digestive ferment, no "aid to digestion"—has simply the digestibility of mothers' milk.

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No Pain beyond this Gate

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TABLETS

DO NOT DEPRESS THE HEART
DO NOT PRODUCE HABIT
ARE ACCURATE-SAFE-SURE

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THYMOLINE
FOR
SUMMER COMPLAINTS

PROPHYLAXIS—The very nature of artificial foods and cow's milk predisposes to their rapid decomposition. A few drops of Glyco-Thymoline added to each feeding corrects acidity and prevents disorders of stomach and intestines.

TREATMENT—As an adjunct to your treatment of summer complaints, Glyco-Thymoline used internally and by enema corrects hyper-acid conditions, stops excessive fermentation and prevents auto intoxication. It is soothing—alkaline—nontoxic.

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It Relieves Congestion

By Stimulating the Circulation

For Entero-Colitis Especially in Children use

ANTIPHLOGISTINE

Spread Antiphlogistine over the entire abdominal wall, at least one-eighth inch thick and as hot as can comfortably be borne, and cover the dressing with a liberal amount of absorbent cotton and a suitable compress.

This will form a most satisfactory adjunct to the successful treatment of these cases, because it produces a depletion of the enteric and peritoneal vessels and stimulates the various plexuses, more particularly the solar and hypogastric, relieves the pain, the tenesmus, the muscular rigidity and obviates the necessity for the administration of opiates and powerful heart stimulants.

POISON IVY—POISON OAK—SUNBURN.

As an application to relieve the dermatitis caused by contact with poisonous plants as well as that caused by exposure to the sun, **Antiphlogistine** cannot be surpassed.

Insure obtaining **Antiphlogistine** at its best by prescribing original packages, and designating the size.

Small—Medium—Large—Hospital.

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PHOSPHO-LECITHIN

Glycero-Phosphates with Lecithin.

A TRUE NERVE FOOD AND TONIC.

INDICATED IN
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- NERVOUS DEBILITY
- NERVOUS EXCITEMENT
- HYSTERIA
- INSOMNIA

Made solely by

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Manufacturing Pharmacists

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BLOOD DEGENERACY

may become brain degeneracy. Build up the condition of the blood and you build up the condition of the fundamental force of the body. Blood degeneracy, like moral degeneracy, denotes a lack of power to resist. A weakened condition of the blood leaves the system an easy prey to malarial affections and contagious diseases.

Pepto-Mangan ("Gude")

is the vital force which restores the blood to its normal germicidal potency. It is a nutrient oxygen carrying agent. After typhoid fever and all diseases producing cachexia, when PEPTO-MANGAN ("GUDE") is administered, systemic reconstruction is rapid.

PEPTO-MANGAN ("GUDE") is ready for quick absorption and rapid infusion into the circulating fluid and is consequently of marked and certain value in all forms of

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SAMPLES AND LITERATURE UPON APPLICATION

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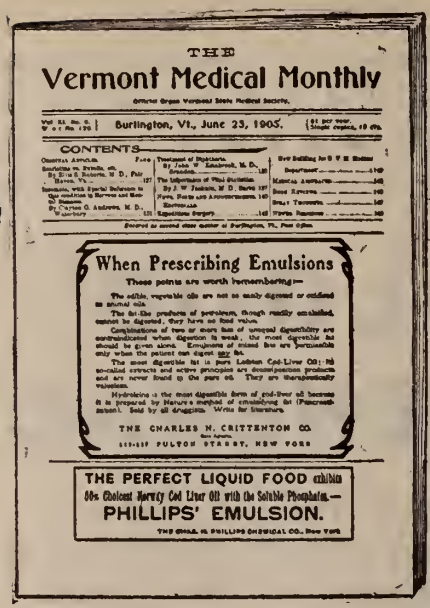
THE
Vermont Medical Monthly

Burlington, Vt., June 23, 1905.

CONTENTS

When Prescribing Emulsions

THE CHARLES N. CRITTENTON CO.

THE PERFECT LIQUID FOOD exhibits
60% Choicest Norway Cod Liver Oil with the Soluble Phosphates.—
PHILLIPS' EMULSION.

Sixteen for One!

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Invaluable in Hay Fever.

SOLUTION ADRENALIN CHLORIDE, introduced by us in 1900, has won more encomiums from the medical profession than have been accorded (with possibly a single exception) to any other remedial discovery in the last quarter of a century. The marked favor of its reception is due to its wonderful potency, its freedom from untoward effect, and its wide range of therapeutic applicability.

Solution Adrenalin Chloride is of great value in Surgery of the Eye, Ear, Nose, Throat, etc., Hay Fever, Asthma, Coryza, Rhinitis, Epistaxis, Conjunctivitis, Iritis, and a long line of other diseases and conditions

Supplied in ounce vials.

WRITE FOR LITERATURE ON HAY FEVER.

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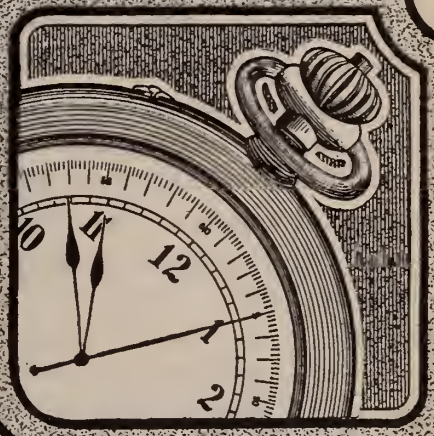

THE insoluble hypodermatic tablet is an unsafe agent. No physician of standing can afford the risk of reputation involved in the use of such a tablet, which is an insufferable nuisance at best and worse than worthless in an emergency.

Parke, Davis & Co.'s hypodermatic tablets dissolve freely and fully, forming a clear solution, without residue. If you have the slightest doubt of it, drop one into a syringe half filled with lukewarm water and shake vigorously. In five seconds (or less) it will have dissolved completely.

NOTE.—Our hypodermatic tablet vials contain 25 tablets—not 20, as supplied by some other manufacturers.

ALWAYS SPECIFY "P., D. & CO." WHEN ORDERING.

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suffering thousands. Sanmetto without any exaggeration is Royal—the Prince Imperial—whose fame is destined to live as long as it continues honest and square, and in the way that gave it its high reputation.

Chicago, Ills. ANDREW JAS. PARK, M. D.

THE RAPID-FIRE GUN OF MODERN THERAPEUTICS.—The same spirit of conservatism that opposed the introduction of modern weapons in warfare, of rifled guns, breech-loaders and smokeless cannon; and of modern methods of ship-building, the introduction of steam, the propeller, the compound engine, iron armor, etc., is still to be found combating the replacement of old-fashioned drugs by the alkaloids, in ready-to-use granule and tablet forms. Nevertheless the latter will prevail, because they are best, as shown by the following characteristics:

1. Their uniformity of strength.
2. Their uniformity of effect.
3. Their certainty of effect.
4. Their quick solubility and absorption, and consequent speedy effect.
5. Their portability, and the consequent reduction of the weight and bulk to be carried on the person—a vest-pocket case carries the essentials for emergency practice.
6. Their ease of administration and the absence of unpleasant and irritating effects.
7. The necessity of weights, scales, measures and other pharmacal paraphernalia is obviated by the manufacturing pharmacist.
8. The perfection with which their action has been worked out allows really scientific application.
9. They do not deteriorate with age or in any climate, are easy to use, pleasant, safe and sure.
10. They give the effects impossible to obtain from the old preparations.
11. Anyone of ordinary intelligence can be taught how to give them and when to stop. Trained nurses while always desirable are not absolutely essential.

Everyone of these statements can be verified by argument or by demonstration. Complete therapeutic price list of Abbott's Standard Alkaloids and *Abbott* Specialties of Alkaloidal certainly may be obtained on request from the Abbott Alkaloidal Co., Ravenswood Station, Chicago. Write today.

ENTERO-COLITIS AND CHOLERA INFANTUM.—Antiphlogistine produces results in cholera infantum that can not be obtained in any other way. Pain is reduced, restlessness is soothed and the tossing, moaning patient falls into a quiet restful sleep. And why not? A moment's thought will convince you that, since the intestines and possibly the peritoneum are inflamed, an application which so rapidly reduces inflammation in other parts of the body must have a beneficial action here. Consider also that in this case, acting directly upon and reflexly through the solar and hypogastric plexuses, it relieves the shock which is so invariably a serious part of the symptom complex.

Apply hot to the abdomen about ⅛ inch thick and cover with absorbent cotton.

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Notwithstanding that a host of imitators have sprung up to reap the benefit of the reputation created by Hayden's Viburnum Compound as a remedy par-excellent in the treatment of diseases of women, this valuable product has steadily increased in popularity and has met every requirement of the most exacting Clinician. In Obstetrical practice H. P. C. has a wide range of usefulness. On the nervous system it has a sedative effect. In delayed labor, owing to a Rigid Os it is particularly efficient and preferable to chloral as it is not a narcotic, and in post-partum work it enjoys all the advantages of ergot without the dangerous actions of the latter drug.

SUPERIOR TO PEPSIN

INGLUVIN

FROM THE VENTRICULUS CALLOSUS GALLINACEUS

Has an unrivalled reputation. Established by over twenty years of use by the Profession of the World.

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A SPECIFIC FOR VOMITING IN GESTATION.

A REMEDY IN INDIGESTION, DYSPEPSIA, ETC.

May be used with unvarying success in all cases of

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INTRODUCED BY

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¶ The ideal safe family laxative, known as—Syrup of Figs—is a product of the California Fig Syrup Co., and derives its laxative principles from senna, made pleasant to the taste and more acceptable to the stomach, by being combined with pleasant aromatic syrups and the juice of figs. It is recommended by many of the most eminent physicians, and used by millions of families with entire satisfaction. It has gained its great reputation with the medical profession by reason of the acknowledged skill and care exercised by the California Fig Syrup Co. in securing the laxative principles of the senna by an original method of its own, and presenting them in the best and most convenient form. The California Fig Syrup Co. has special facilities for commanding the choicest qualities of Alexandria senna, and its chemists devote their attention to the manufacture of the one product. The name—Syrup of Figs—means to the medical profession "the amily laxative, manufactured by the California Fig Syrup Co.," and the name of the Company is a guarantee of the excellence of as product. Informed of the above facts, the careful physician will know how to prevent the dispensing of worthless imitations when he recommends or prescribes the original and genuine—Syrup of Figs. It is well known to physicians that—Syrup of Figs—is a *simple*, *safe* and *reliable* laxative, which does not irritate or debilitate the organs on which it acts, and, being pleasant to the taste, it is especially adapted to ladies and children, although generally applicable in all cases. Special investigation of the profession invited.

Syrup of Figs—is never sold in bulk. It retails at fifty cents per bottle, and the name—Syrup of Figs,— as well as the name of the California Fig Syrup Co., is printed on the wrappers and labels of every bottle.

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Medical Department.

This department of the University has been completely reorganized, and offers to students of medicine an opportunity to obtain a thorough course of modern instruction at a moderate expense. Four years' graded course, seven months, Dec. first to July first.

Write for catalogue giving full particulars. Address,

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Neurilla is prepared from Scutellaria and Aromatics, and is absolutely harmless even under prolonged use.

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These trade-mark crisscross lines on every package.
GLUTEN FLOUR For Dyspepsia
SPECIAL DIABETIC FLOUR.
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DOSE:—One Teaspoonful Four Times a Day. OD CHEM. CO., NEW YORK.

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PRODUCES RESULTS

in the treatment of Brain Fag, Alcoholic Nerves, Senile Weakness etc., that will induce the Physician to confirm the verdict of the Profession everywhere as to the virtues of this Celebrated Nerve Stimulant and Tonic.

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The Safe Diuretic.
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PHENOL SODIQUE is a definite c hemical compound devoid of caustic and toxic properties.

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Sample and literature on request. Mention this journal.

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A Palatable Preparation of

PANAX SCHINSENG

in an Aromatic Essence

A full size bottle, for trial, to physicians who will pay express charges

DOSE—One to two teaspoonfuls three times a day

IT PROMOTES NORMAL DIGESTION BY ENCOURAGING THE FLOW OF DIGESTIVE FLUIDS

It is the modern and most successful treatment for

INDIGESTION

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Samples mailed to physicians only

DOSE—One to four pillets three times a day

Has Many Advantages Over Other

HEART STIMULANTS

It Has No Cumulative Action, and is Absolutely Safe and Reliable

Each pillet represents one one-hundredth of a grain Cactina, the active proximate principle of Cereus Grandiflora

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BROMIDES

AND THE GENUINE IS DISPENSED

HALF-POUND BOTTLES ONLY FOR PHYSICIANS' PRESCRIPTIONS

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For clinical trial we will send full size bottle of either or both preparations to any physician who will pay express charges

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The high esteem in which ERGOAPIOL (Smith) is held by all calculating clinicians needs no speculative explanation. It is due to no other cause than that of REASON.

REASON guides the selection of each agent embraced in the remedy;
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Physicians prefer ERGOAPIOL (Smith) to all other agents of a similar character for the REASON that it is unquestionably the most dependable preparation ever designed for the relief of

Irregular Menstruation.

DOSE:

One to two capsules 3 or 4 times a day.
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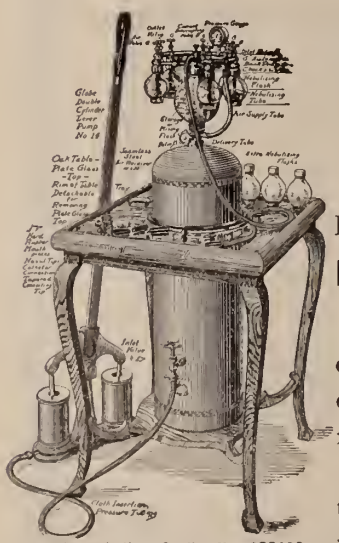

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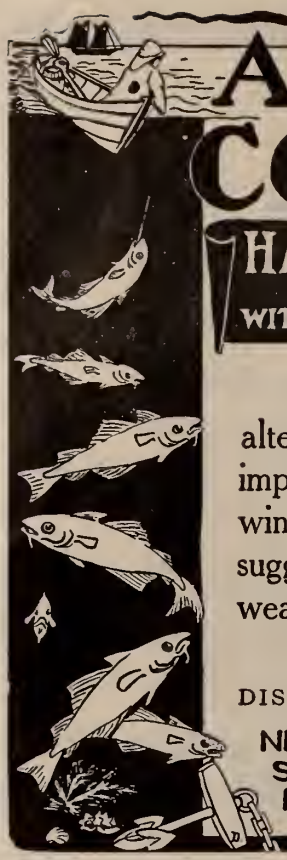

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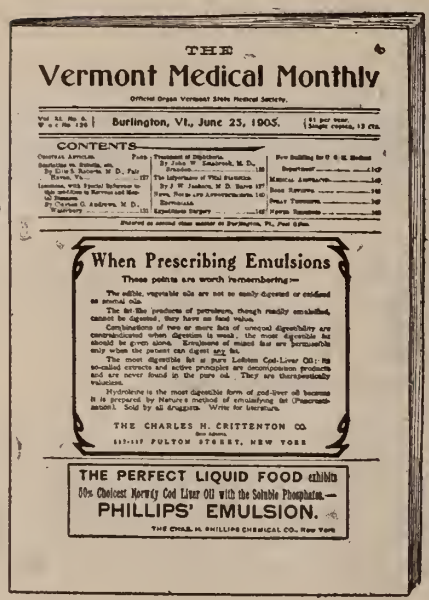
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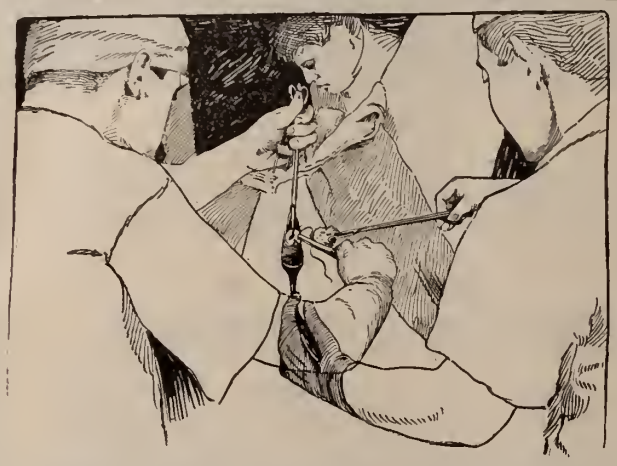

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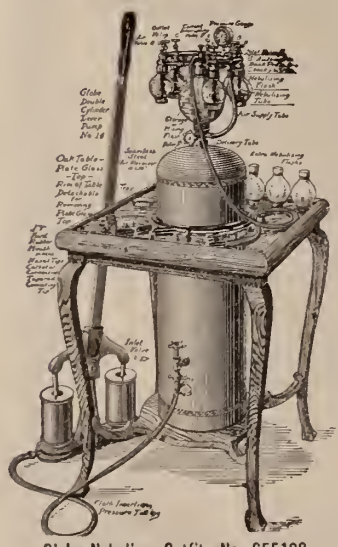

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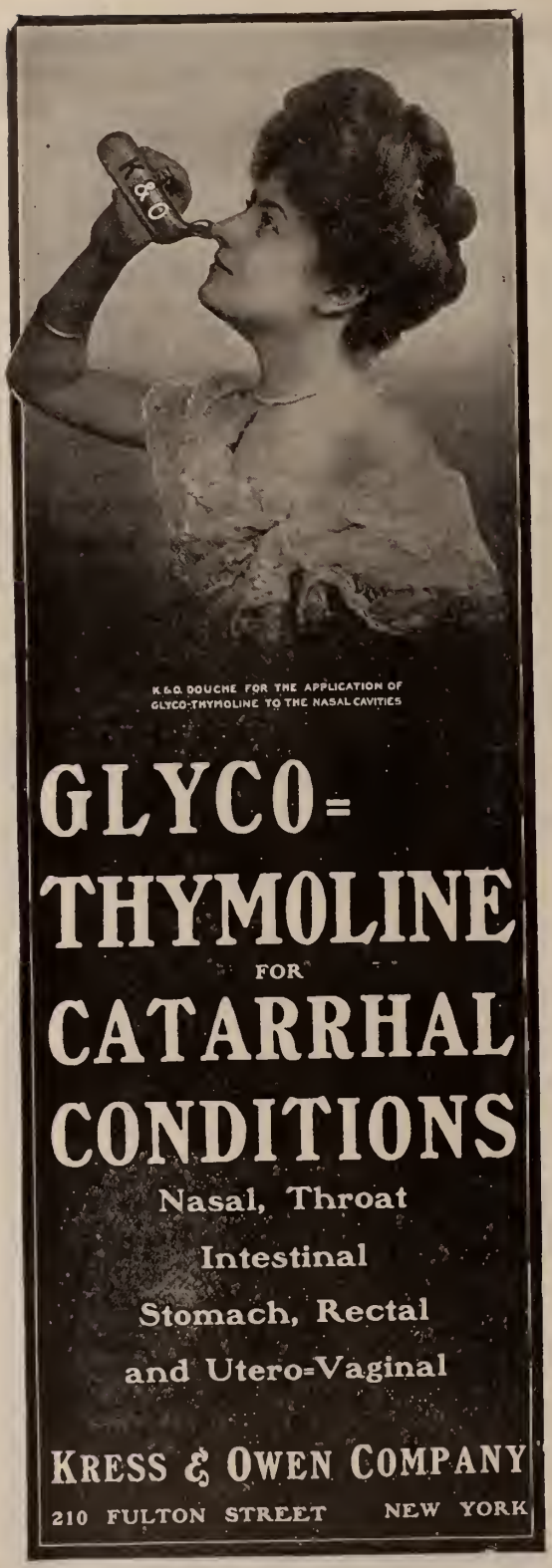

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THE
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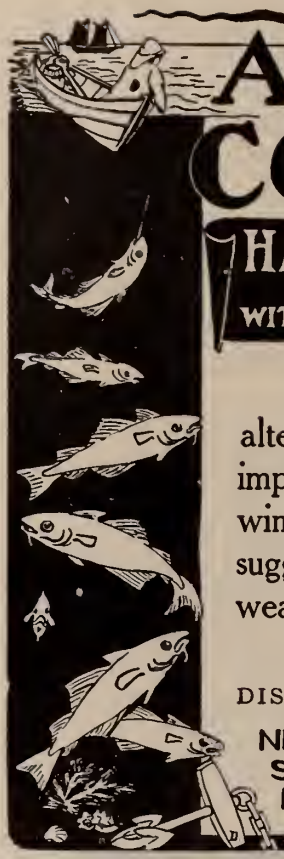

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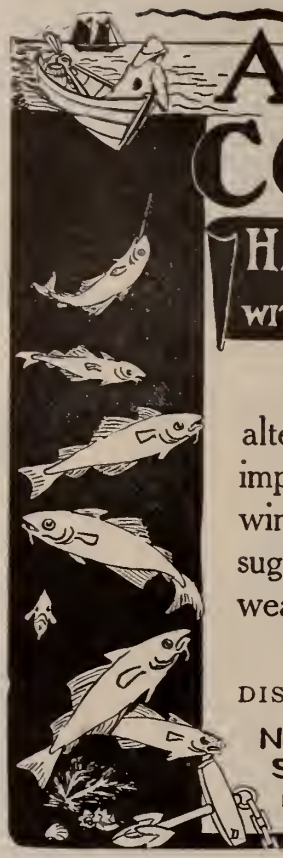

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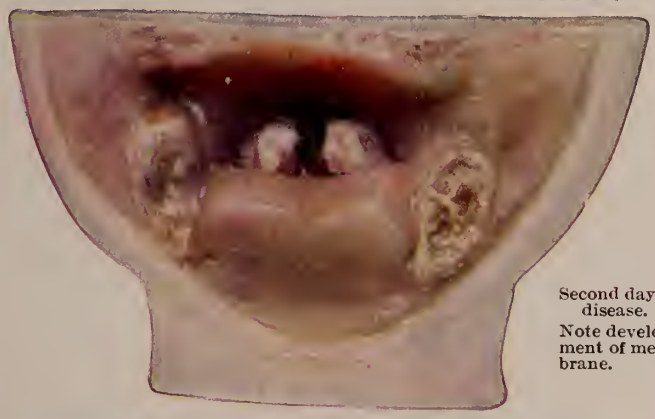

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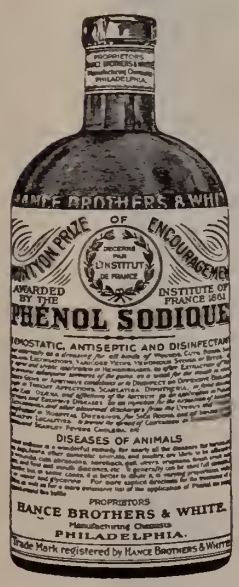

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